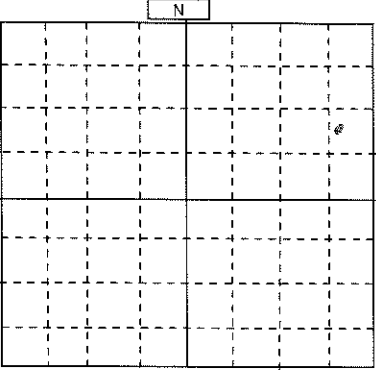


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460**APPLICATION TO TRANSFER PERMIT**

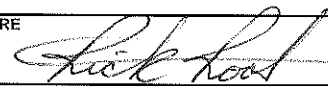
NAME & ADDRESS OF EXISTING PERMITTEE Kalkaska Oilfield Services 4030 Columbus Drive, NE Kalkaska, Michigan 49646		NAME & ADDRESS OF SURFACE OWNER State Of Michigan			
Locate Well and Outline Unit on Section Plat - 640 Acres 	STATE Michigan	COUNTY Grand Traverse	PERMIT NUMBER MI-055-2D-C015		
	SURFACE LOCATION DESCRIPTION NW 1/4 of SE 1/4 of NE 1/4 of 1/4 of Section 21 Township 26N Range 11W				
	LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT Surface Location 860 ft. From (N/S) South Line of Quarter Section And 760 ft. From (E/W) East Line of Quarter Section				
	<table border="0" style="width:100%;"> <tr> <td style="width:33%; vertical-align: top;"> WELL ACTIVITY <input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input checked="" type="checkbox"/> Brine Disposal <input type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage <input type="checkbox"/> Class III <input type="checkbox"/> Other </td> <td style="width:33%; vertical-align: top;"> WELL STATUS <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Modification/Conversion <input type="checkbox"/> Proposed </td> <td style="width:33%; vertical-align: top;"> TYPE OF PERMIT <input checked="" type="checkbox"/> Individual <input type="checkbox"/> Area Number of Wells <input type="checkbox"/> </td> </tr> </table>			WELL ACTIVITY <input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input checked="" type="checkbox"/> Brine Disposal <input type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage <input type="checkbox"/> Class III <input type="checkbox"/> Other	WELL STATUS <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Modification/Conversion <input type="checkbox"/> Proposed
WELL ACTIVITY <input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input checked="" type="checkbox"/> Brine Disposal <input type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage <input type="checkbox"/> Class III <input type="checkbox"/> Other	WELL STATUS <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Modification/Conversion <input type="checkbox"/> Proposed	TYPE OF PERMIT <input checked="" type="checkbox"/> Individual <input type="checkbox"/> Area Number of Wells <input type="checkbox"/>			
Lease Number ST Blair		Well Number 5-21			
NAME(S) AND ADDRESS(ES) OF NEW OWNER(S) S.W.D. Speciaties, LLC 4030 Columer Drive, NE Kalkaska, Michigan 49646		NAME AND ADDRESS OF NEW OPERATOR S.W.D. Speciaties, LLC 4030 Columer Drive, NE Kalkaska, Michigan 49646			

Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The new permittee must show evidence of financial responsibility by the submission of surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the director

CERTIFICATION

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)

NAME AND OFFICIAL TITLE Rick Root Yard Manager	SIGNATURE 	DATE SIGNED 3-2-2006
--	--	--------------------------------

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility St Blair #5-21 Blair TownHall Rd E Grawn, Michigan 49637	Name and Address of Owner/Operator S.W.D SPECIALTIES LLC 4030 Columbus Dr. Kalkaska MI 49646
---	--

Locate Well and Outline Unit on Section Plat - 640 Acres 	State <u>Michigan</u>	County <u>Grand Traverse</u>	Permit Number <u>MI-055-2D-C015</u>
	Surface Location Description <u>NW SE NE</u> of <u>sec 21, T26N - R11W</u>		
	Locate well in two directions from nearest lines of quarter section and drilling unit Surface Location <u>860</u> ft. From (N/S) <u>South</u> Line of Quarter Section And <u>760</u> ft. From (E/W) <u>East</u> Line of Quarter Section		
	TYPE OF AUTHORIZATION <input checked="" type="checkbox"/> Individual Permit <input type="checkbox"/> Area Permit <input type="checkbox"/> Rule Number of Wells <u>1</u> Lease Name <u>St Blair</u>		WELL ACTIVITY <input type="checkbox"/> Class I <input type="checkbox"/> Hazardous <input type="checkbox"/> Nonhazardous <input checked="" type="checkbox"/> Class II <input checked="" type="checkbox"/> Brine Disposal <input type="checkbox"/> Enhanced Recovery <input type="checkbox"/> Hydrocarbon Storage <input type="checkbox"/> Class III
Well Number <u>5-21 swd</u>			

CASING AND TUBING RECORD AFTER PLUGGING					METHOD OF EMPLACEMENT OF CEMENT PLUGS			
SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE				
16"	65#	90'	90'	Driven	<input checked="" type="checkbox"/> Balance Method <input type="checkbox"/> Dump Bailer Method <input type="checkbox"/> Two Plug Method <input type="checkbox"/> Other			
11 3/4"	42#	733'	733'	13 1/8"				
5 1/2"	15.5#	1450'	1450'	10 5/8"				
CEMENT TO PLUG AND ABANDON DATA:					Plug #4	Plug #5	Plug #6	Plug #7
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	10 5/8"	5 1/5"	5 1/2"					
Depth to Bottom of Tubing or Drill Pipe (ft)	2046'	1400'	700'					
Sacks of Cement To Be Used (each plug)	317	50	94					
Slurry Volume To Be Pumped (cu. Ft.)	354	59	111					
Calculated Top of Plug (ft.)	1400'	958'	surface					
Measured Top of Plug (if lagged, ft.)	0	0	0					
Slurry Weight (Lb./Gal.)	15.6	15.6	15.6					
Type of Cement or Other Material (Class III)	A	A	A	* Cement retainer set in 5 1/2"				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)			
From	To	From	To

Estimated Cost to Plug Wells
cement \$4,500
rig or pulling unit \$1,500
cement retainer \$1,000
miscellaneous \$2,500
total \$9,500.00

CERTIFICATION	
I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)	
Name and Official Title (Please type or print) <u>Rick Root</u> <u>Yard Manager</u>	Signature <u>Rick Root</u> Date Signed <u>3-2-2006</u>

**REQUEST FOR TRANSFER OF PERMIT**

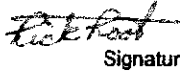
Required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, Act 451 PA 1994 as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

☒ Part 615 Oil/Gas Well☐ Part 625 Mineral Well


Permit number 34713	Well type Brine Disposal	Current true vertical depth 5630'
Well name and number State Blair #5-21		
Surface location NW 1/4 SE 1/4 NE 1/4 Section 21 T 26N R 11W		
Township Blair		County Grand Traverse

NOTE: Eligibility for permits is conditioned upon compliance with the statutes, rules and orders of the Department of Environmental Quality. Permits shall not be transferred to persons not in compliance. A permit for a well shall not be transferred if the permittee is under notice because of unsatisfactory conditions at the well site until compliance is achieved. The acquiring permittee shall attach a current Organization Report (EQP 7200-13)
This permit does not convey property rights in either real estate or material nor does it authorize any injury to private property or invasion of private or public rights nor does it waive the necessity of seeking federal and local permits or complying with other state statutes.

TRANSFER OF A PERMIT FROM:

Name(s) of Selling Permittee(s) Kalkaska Oil Field Services		Fed. I.D.# or S.S.# 38-308-3604	
Address: Number and Street, City or Town, State, ZIP Code Telephone 4030 Columbus Drive, NE, PO Box 1090, Kalkaska, MI 49646		616-258-6026	
All permits rights and responsibilities are discharged by:			
Kalkaska Oil Field Services Permittee	Rick Root Authorized representative name	 Signature	12-13-05 Date
Permittee	Authorized representative name	Signature	Date
Permittee	Authorized representative name	Signature	Date

TRANSFER OF A PERMIT TO:

Name(s) of Acquiring Permittee(s): SWD Specialties, LLC		Fed. I.D.# or S.S.# EIN 20-3310760	
Address: Number and Street, City or Town, State, ZIP Code 4030 Columbus Drive, Kalkaska, MI 49646 - Bus: 231-258-9134		Telephone	
(We are) (I am) an owner or authorized representative of the owner of the well under this permit and assume full responsibility for the drilling, operation, and abandonment in conformity with the law, regulations and orders.			
BOND: <input checked="" type="checkbox"/> Single Well <input checked="" type="checkbox"/> Attached Surety or Bank <u>Northwestern Bank</u> <input type="checkbox"/> Blanket <input type="checkbox"/> On File Bond Number <u>LOC #0511153</u> Amount <u>\$25,000</u> <input type="checkbox"/> Statement of Financial Responsibility			
All permittee rights and responsibilities are assumed by:			
SWD Specialties, LLC Permittee	George Molski Authorized representative name	 Signature	11/23/05 Date
Permittee	Authorized representative name	Signature	Date
Permittee	Authorized representative name	Signature	Date

FOR DEPARTMENT OF ENVIRONMENTAL QUALITY USE ONLY

Approved _____ Signature	Date _____	Distribution by DEQ <input type="checkbox"/> Lansing <input type="checkbox"/> Selling Owner <input type="checkbox"/> Field <input type="checkbox"/> Acquiring Owner
-----------------------------	------------	---

**Northwestern
Bank**

625 S. Garfield Ave.
P.O. Box 809
Traverse City, MI 49685-0809
(231) 947-5490

www.nwbank.com

Irrevocable Letter of Credit # 0511153
Date: November 15, 2005
Expiration Date: November 15, 2006
State Blair 5-21 well
Part 615 Supervisor of Wells, 1994 PA 451, as amended

Supervisor of Wells
Michigan Department of Environmental Quality
P.O. Box 30256
Lansing, MI 48909-7756

We hereby issue our Irrevocable Letter of Credit #0511153 in your favor on behalf of SWD Specialties, LLC hereinafter known as the Company, for a sum of Twenty Five Thousand Dollars (\$25,000.00), available by your drafts at sight drawn on our institution, Northwestern Bank. Drafts must be marked "Drawn under Northwestern Bank Letter of Credit # 0511153 dated November 15, 2005".

This letter is issued to provide financial assurance to the State of Michigan for the well known as State Blair 5-21.

The Supervisor of Wells may draw on this Letter of Credit in the event (1) that the Department of Environmental Quality issues a Notice of Violation indicating that the Company has failed to comply with the provisions of PART 615 SUPERVISOR OF WELLS, 1994 PA 451, as amended in the final completion of the aforesaid well or wells. "Final Completion" means the locating, drilling, completing, producing, reworking, plugging, filling of pits, and clean up of well site, including the filing of prescribed records and approval thereof by the Supervisor of Wells; or (2) that the Company fails to provide the Supervisor of Wells with an extension of this Letter of Credit or other financial assurance; or (3) that the Company is adjudged insolvent or bankrupt. The Company shall be deemed, for purposes of this Letter of Credit, adjudged bankrupt upon any petition under Title 11 of the United States Code, filed on the Debtors behalf, and an order for relief granted by any of the United States District of Bankruptcy Courts.

If any provision of this Letter of Credit is construed as ineffective by the court of competent jurisdiction, all other provisions of this Letter of Credit shall remain in full effect and be enforceable pursuant to the effective provisions contained herein.

This Letter of Credit is subject to the Uniform Customs and Practices for Documentary Letters of Credit, 1993 revision of the International Chamber of Commerce, Publication No. 500, and as to matters not governed by the Uniform Customs and Practice for Documentary Credits,

aforementioned, shall be governed by, and construed in accordance with the Uniform Commercial Code of the State of Michigan.

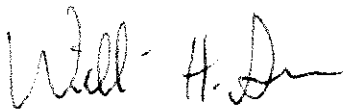
Partial drawings are permitted without canceling the Letter of Credit balance. This original Letter of Credit must be submitted to us together with any drawings thereunder for our endorsement of any payments affected by us and or cancellation.

It is a condition of this Letter of Credit that it shall be automatically extended for additional terms of one (1) year from the present or each future expiration date unless we give the Supervisor of Wells and the Company, at least ninety (90) days before said expiration date, written notice by certified mail, return receipt requested, or hand delivery, that we elect to terminate this Credit at the end of its then current term.

In the event we give notice of our election to terminate this Letter of Credit and SWD Specialties, LLC fails to replace this Letter of Credit with other financial assurances acceptable to the Department, you may draw on this Letter of Credit, up to the aggregate amount, less any prior drafts presented by the Department and paid by us, not sooner than thirty (30) days after the date of such notice by presentation of a draft marked "Drawn under Northwestern Bank Letter of Credit No. 0511153", accompanied by a statement purportedly signed by an authorized representative of the Department reading as follows:

"The Michigan Department of Environmental Quality is making this drawing because SWD Specialties, LLC has failed to replace this Letter of Credit with other financial assurances acceptable to the Department."

We hereby engage with you that drafts in conformity with the terms of this Letter of Credit will be duly honored upon presentation if presented on or after November 15, 2005 and on or before November 15, 2006. The amount of each draft must be endorsed on the reverse of this Letter of Credit by the negotiating financial institution.

A handwritten signature in dark ink, appearing to read "Will H. Green", with a stylized flourish at the end.

William H. Green
Vice President

**FOSTER,
SWIFT,
COLLINS &
SMITH, P.C.**
Attorneys at Law



Walter S. Foster
1878-1961
Richard B. Foster
1908-1996
Theodore W. Swift
1928-2000
John L. Collins
1926-2001

Webb A. Smith
Allan J. Claypool
Gary J. McRay
Robert J. McCullen
Stephen I. Jurmu
William K. Fahey
Stephen O. Schultz
William R. Schulz
David H. Aldrich

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Robert C. Greene
Scott H. Hogan
James B. Frakie
Mark J. Colon
Craig R. Petersen

Writer's Direct Phone: (517) 371-8155

Fax: (517) 371-8155 Reply To: Lansing

RECEIVED

February 21, 2006

FEB 22 2006

UIC BRANCH
EPA REGION 5

Via Federal Express

Stephen Roy (WG165)
Underground Injection Control Program
United States Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Sir:

Re: SWD Specialties/Transfer of UIC Permits

As you are aware, this office represents SWD Specialties, LLC, which informed your agency of the transfer of certain underground injection control permits from Kalkaska Oilfield Services to SWD Specialties, LLC. In that regard, you asked for the Plugging and Abandonment plans for those wells. We now enclose a copy of those plans for your reference. We would ask that you confirm that the agency will consider these UIC permits transferred at the time that the closing occurs regarding the transfer of the wells in question. If you have any questions or comments, please advise.

Very truly yours,

FOSTER, SWIFT, COLLINS & SMITH, P.C.

Charles E. Barbieri

CEB:cas

Enclosures

cc: George Molski (w/o enc.)
James B. Jensen, Jr. (w/out enc.)
Joe Quandt (w/out enc.)
Larry Organek (w/out enc.)

S:\156\Arrow\roy.doc

LANSING:
313 S. Washington Square
Lansing, MI 48933-2193
PH: 517.371.8100
FX: 517.371.8200

FARMINGTON HILLS:
Suite 230
32300 Northwestern Hwy.
Farmington Hills, MI 48334-1571
PH: 248.539.9900
FX: 248.551.7504

GRAND RAPIDS:
Suite 200
1700 East Beldine, N.E.
Grand Rapids, MI 49525-2076
PH: 616.726.2200
FX: 616.726.2299

UNITED STATE

ENVIRONMENTAL PROTECTION AGENCY

MI-055-2D-C015

WASHINGTON, D.C. 20460

PLUGGING AND ABANDONMENT PLAN**Name and Address of Facility**

St Blair #5-51
Blair TownHall Rd E
Traverse City , MI 49684

Name and Address of Owner/Operator

S.W.D SPECIALTIES LLC
4030 Columbus Dr.
Kalkaska MI 49646

State

MI

County

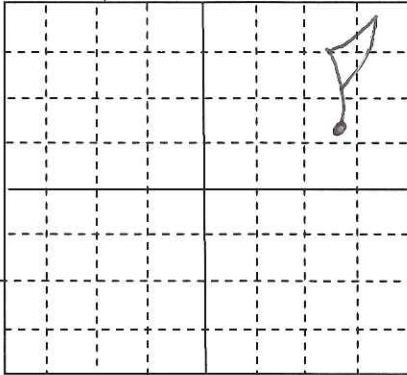
Grand Traverse

Permit Number

34713

Locate Well and Outline Unit on
Section Plat - 640 Acres

N



Surface Location Description

nw se ne of sec 21 , T26N-R11W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 860 ft. From (N/S) S Line of Quarter Section

And 760 ft. From (E/W) E Line of Quarter Section

TYPE OF AUTHORIZATION☒ Individual Permit☐ Area Permit☐ Rule

Number of Wells 1

Lease Name St Blair

**WELL
ACTIVITY**☐ Class I☐ Hazardous☐ Nonhazardous☒ Class II☒ Brine Disposal☐ Enhanced Recovery☐ Hydrocarbon Storage☐ Class III

Well Number 5-21 swd

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
16"	65#	90'	90'	Driven
11 3/4	42#	733'	733'	13 1/8
5 1/2	15.5#	1450'	1450'	10 5/8

METHOD OF EMPLACEMENT OF CEMENT PLUGS☒ Balance Method☐ Dump Bailer Method☐ Two Plug Method☐ Other**CEMENT TO PLUG AND ABANDON DATA:**

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	10 5/8	5 1/5	5 1/2				
Depth to Bottom of Tubing or Drill Pipe (ft)	2046'	1400'	700'				
Sacks of Cement To Be Used (each plug)	317	50	94				
Slurry Volume To Be Pumped (cu. Ft.)	354	59	111				
Calculated Top of Plug (ft.)	1400'	958'	surface				
Measured Top of Plug (if tagged, ft.)	0	0	0				
Slurry Weight (Lb./Gal.)	15.6	15.6	15.6				
Type of Cement or Other Material (Class III)	A	A	A * Cement retainer set in 5 1/2				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From

To

From

To

Estimated Cost to Plug Wells

cement \$4,500

rig or pulling unit \$1,500

cement retainer \$1,000

miscellaneous \$2,500

total \$9,500.00

CERTIFICATION

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)

Name and Official Title

(Please type or print)

George C. Molster Manager

Signature

Date Signed

2/20/04

ORIGINAL WELL CONSTRUCTION DUR

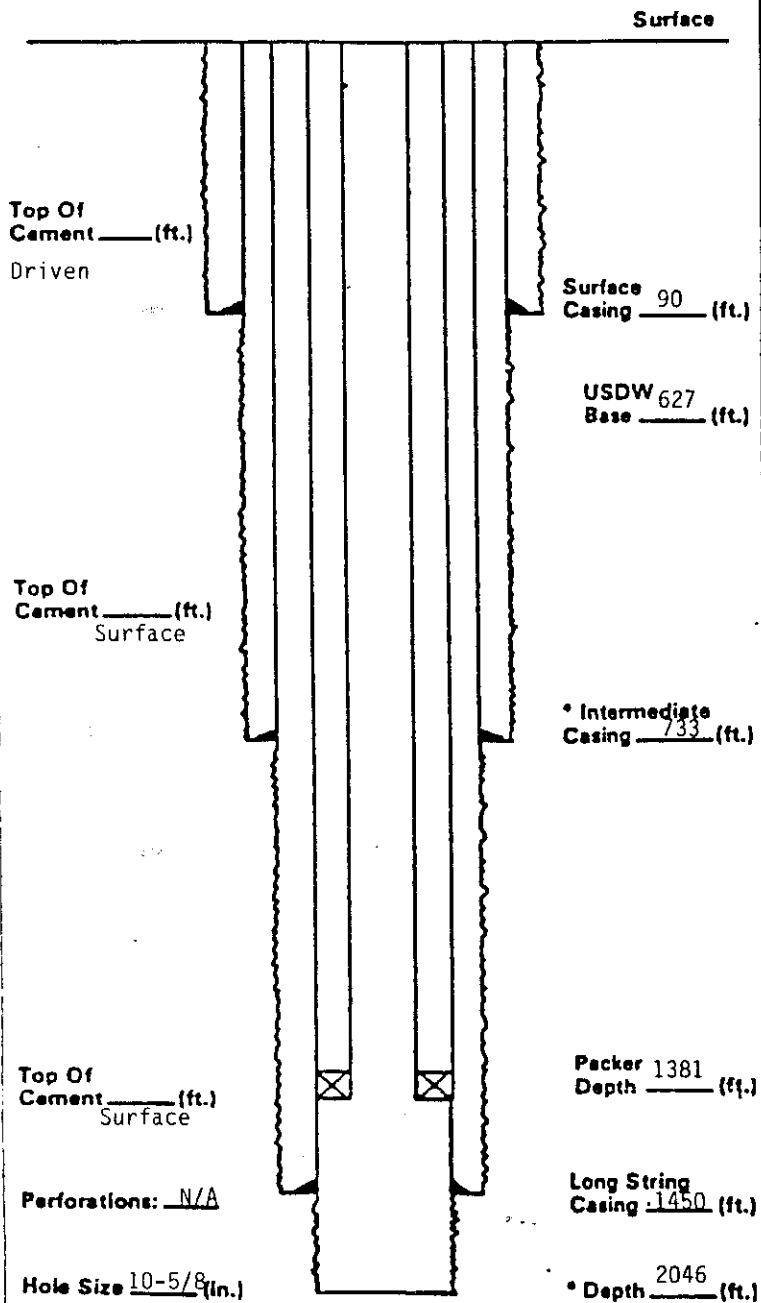
OPERATION

PLUGGING AND

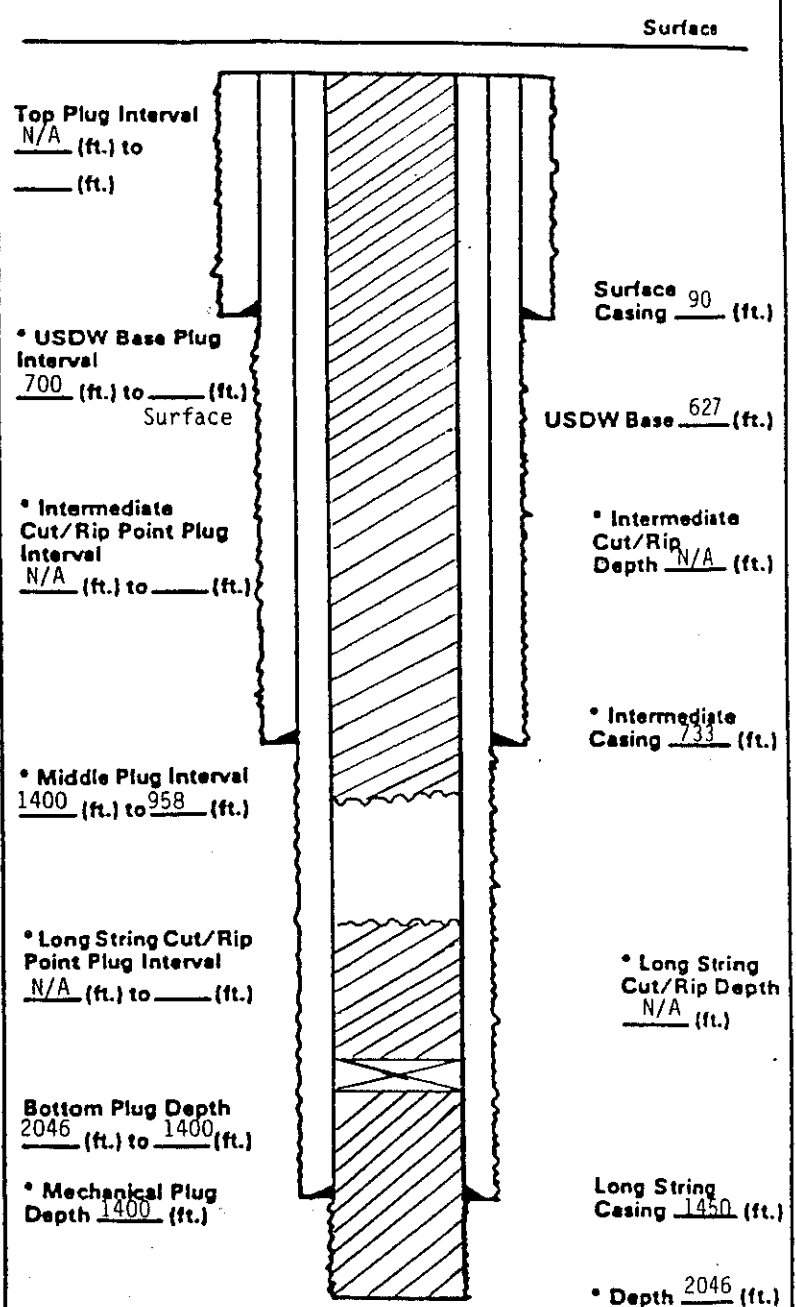
ANDONMENT CONSTRUCTION

MI-055-2D-C015

Page B-2 of 2



** Add Any Additional Information
* May Not Apply



** Add Any Additional Information
* May Not Apply

LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

Specify Open Hole/Perforations/Varied Casing	From	To	Formation Name
1 hole	1450'	2046'	

**FOSTER,
SWIFT,
COLLINS &
SMITH, P.C.**
Attorneys at Law



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Mark J. Colon
Craig R. Petersen

Writer's Direct Phone: 517.371.8155

Fax: 517.367.7155

Reply To: Lansing

January 16, 2006

RECEIVED

JAN 17 2006

**UIC BRANCH
EPA REGION 5**

Via Federal Express

UIC Branch (W-16J)
United States Environmental Protection Agency
Region V
77 West Jackson Blvd
Chicago, IL 60604-3590

Dear Sir:

Re: Permit Number: MI-055-2D-C015 ✓	Permit Number: MI-079-2D-C008 ✓
Facility Name: State Blair #5-21	Facility Name: Simpson #1-9
Permit Number: MI-079-2D-C016 ✓	Permit Number: MI-079-2D-C001 ✓
Facility Name: Wlosinski 2-27	Facility Name: Hogerheide #1-29 SWD
Permit Number: MI-065-2D-C007 ✓	Permit Number: MI-065-2D-C008 ✓
Facility Name: Barber/Kopicko	Facility Name: White Oak #1 SWD
Permit Number: MI-025-2D-C003 ³ ✓	Permit Number: MI-10-12D-C030 ✓
Facility Name: Kibler/Mather	Facility Name: Tel B #2-25
Permit Number: MI-035-2D-C028 ✓	Permit Number: MI-055-2D-C033 ✓
Facility Name: Miller #23-41	Facility Name: Wedow State Blair #2-28

As a matter of introduction, this law office represents SWD Specialities, LLC, which is in the process of acquiring the assignment of several leases and purchasing several specific properties which have underground injection control permits regulated by your agency. In an effort to facilitate the transfer of the above Underground Injection Control permits for these wells under 40 CFR 144.38(b), we are providing you with the current permittee's notification, a copy of a written agreement between the existing and new permittee, which contains information regarding the date of transfer and permit responsibility, coverage and liability and notice demonstrating financial responsibility requirements will

LANSING:
313 S. Washington Square
Lansing, MI 48933-2193
PH: 517.371.8100
FX: 517.371.8200

FARMINGTON HILLS:
Suite 230
32300 Northwestern Hwy.
Farmington Hills, MI 48334-1571
PH: 248.539.9900
FX: 248.851.7504

GRAND RAPIDS:
Suite 200
1700 East Beltline, N.E.
Grand Rapids, MI 49525-2076
PH: 616.726.2200
FX: 616.726.2299

UIC Branch (W-16))

January 16, 2006

Page 2



be met by the new permittee. A closing, which is tied to completion of transferring not only these but also other permits, is not expected after February 16, 2005. In connection with the notice demonstrating financial assurance, you will see a letter authored by a principal of SWD Specialties, which attaches a copy of the Letter of Credit that it has obtained for the purpose of meeting similar financial assurance requirements for Michigan's oil & gas program regulated under Part 615 of the Natural Resources & Environmental Protection Act, as amended.

We hope and trust that this transmission is adequate to carry out the provisions of the automatic transfers. If you have any questions or comments, please advise as soon as possible.

Very truly yours,

FOSTER, SWIFT, COLLINS & SMITH, P.C.

A handwritten signature in dark ink, appearing to read 'C.E. Barbieri'.

Charles E. Barbieri

CEB:cas

Enclosures

cc: George Molski
James B. Jensen, Jr. (w/out enc.)
Joe Quandt
David R. Davis, Permits and Bonding Unit

December 13, 2005

United States Environmental Protection Agency
77 West Jackson Blvd.
Chicago, IL 60604-3590

Permit Number: MI-055-2D-C015
Facility Name: State Blair #5-21


To Whom It May Concern:

This letter is to provide notice of a transfer of an underground injection control permit from Kalkaska Oilfield Services of Kalkaska, Michigan, to SWD Specialties, LLC, 1019 Heatherton Road, P. O. Box 339, Johannesburg, MI 49751 [Bus # 989-732-0735/fax # 989-732-3714], pursuant to 40 CFR 144.38(b)(2). This notice includes a copy of the written agreement between the existing permit holder and the party purchasing the well property. Responsibility for this permit will be transferred on a date after January 15, 2006 when the parties are prepared to close in accordance with the October 5, 2005 Salt Water Disposal Well Purchase and Assignment Agreement.

This transfer will include permit responsibility, coverage and liability between the parties. The buyer, SWD Specialties, LLC, has met the requirements of Section 144.52(a)(7), and has the resources to close, plug and abandon the underground injection operation in a manner prescribed by the Director. See attached documentation.

Sincerely,

KALKASKA OILFIELD SERVICES

By 
Name: Rick Root
Title: Area Manager
4030 Columbus Drive NE
P. O. Box 1090
Kalkaska, MI 49646
Bus # 616-258-6026

UIC PERMIT TRANSFER AGREEMENT

WHEREAS, Arrow Energy Services, Inc. ("Arrow") and Key Energy Services, Inc. ("Key") entered into an Asset Purchase Agreement on April 29, 2005 to, in part, allow for the transfer of certain underground injection control wells that are permitted in the name of Kalkaska Oilfield Services of Kalkaska, Michigan.

WHEREAS, WellTech Eastern, Inc., Kalkaska Oilfield Services, Inc., Key Energy Services, Inc., and SWD Specialties, LLC entered into a Salt Water Disposal Well Purchase and Assignment Agreement on October 5, 2005 to transfer certain wells.

WHEREAS, in accordance with the aforementioned agreements, SWD Specialties, LLC, will acquire the underground injection control wells: Hogerheide #1-29 SWD, permit MI-079-2D-C001; Simpson #1-9, permit MI-079-2D-C008; White Oak #1 SWD, permit MI-065-2D-C008; Miller #23-41, permit MI-035-2D-C028; Wedow State Blair #2-28, permit MI-055-2D-C033; State Blair #5-21, permit MI-055-2D-C015; Kibler/Mather, permit MI-025-2D-C003; Barber/Kopicko, permit MI-065-2D-C007; Wlosinski #2-27, permit MI-079-2D-C016; and Tel B #2-25, Permit MI-10-12D-C030 ("Underground Injection Control Wells").

WHEREAS, federal regulations require an agreement for transfer of the Underground Injection Control Well permits.

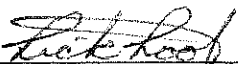
NOW, THEREFORE, in recognition of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and confessed, the parties hereto hereby agree as follows:

1. In accordance with 40 CFR 144.38(b)(2), Key and/or its wholly owned subsidiary, Kalkaska Oilfield Services, Inc., shall transfer the permit responsibility, coverage and liability for the Underground Injection Control Wells to SWD Specialties, LLC, on a date after January 15, 2006, when the parties are prepared to close in accordance with the October 5, 2005 Salt Water Disposal Well Purchase and Assignment Agreement.


2. SWD Specialties, LLC, can satisfy the financial responsibility requirements of 40 CFR 144.52(a)(7) for the Underground Injection Control Wells on or before the transfer date specified in paragraph 1 of this Agreement;

The parties hereto have executed this Transfer Agreement as of December 31, 2005.


KALKASKA OILFIELD SERVICES, INC.

By 
Name: Rick Root
Title: Area Manager
4030 Columbus Drive NE
P. O. Box 1090
Kalkaska, MI 49646
Bus # 616-258-6026


KEY ENERGY SERVICES, INC.

By 
Name: THOMAS E. MURPHY JR.
Title: VP- Performance Management
6 Desta Drive
Midland, TX 79705
Bus # 713-851-3721

ARROW ENERGY SERVICES, INC.

By 
Name: George Molski
Title: President
1019 Heatherton Road
P. O. Box 339
Johannesburg, MI 49751
Bus # 989-732-0735

SWD SPECIALITIES, LLC

By 
Name: George Molski
Title: Member
1019 Heatherton Road
P. O. Box 339
Johannesburg, MI 49751
Bus # 989-732-0735



**Northwestern
Bank**

625 S. Garfield Ave.
P.O. Box 809
Traverse City, MI 49685-0809
(231) 947-5490

www.nwbank.com

Irrevocable Letter of Credit # 0511153
Date: November 15, 2005
Expiration Date: November 15, 2006
State Blair 5-21 well
Part 615 Supervisor of Wells, 1994 PA 451, as amended

Supervisor of Wells
Michigan Department of Environmental Quality
P.O. Box 30256
Lansing, MI 48909-7756

We hereby issue our Irrevocable Letter of Credit #0511153 in your favor on behalf of SWD Specialties, LLC hereinafter known as the Company, for a sum of Twenty Five Thousand Dollars (\$25,000.00), available by your drafts at sight drawn on our institution, Northwestern Bank. Drafts must be marked "Drawn under Northwestern Bank Letter of Credit # 0511153 dated November 15, 2005".

This letter is issued to provide financial assurance to the State of Michigan for the well known as State Blair 5-21.

The Supervisor of Wells may draw on this Letter of Credit in the event (1) that the Department of Environmental Quality issues a Notice of Violation indicating that the Company has failed to comply with the provisions of PART 615 SUPERVISOR OF WELLS, 1994 PA 451, as amended in the final completion of the aforesaid well or wells. "Final Completion" means the locating, drilling, completing, producing, reworking, plugging, filling of pits, and clean up of well site, including the filing of prescribed records and approval thereof by the Supervisor of Wells; or (2) that the Company fails to provide the Supervisor of Wells with an extension of this Letter of Credit or other financial assurance; or (3) that the Company is adjudged insolvent or bankrupt. The Company shall be deemed, for purposes of this Letter of Credit, adjudged bankrupt upon any petition under Title 11 of the United States Code, filed on the Debtors behalf, and an order for relief granted by any of the United States District of Bankruptcy Courts.

If any provision of this Letter of Credit is construed as ineffective by the court of competent jurisdiction, all other provisions of this Letter of Credit shall remain in full effect and be enforceable pursuant to the effective provisions contained herein.

This Letter of Credit is subject to the Uniform Customs and Practices for Documentary Letters of Credit, 1993 revision of the International Chamber of Commerce, Publication No. 500, and as to matters not governed by the Uniform Customs and Practice for Documentary Credits,

aforementioned, shall be governed by, and construed in accordance with the Uniform Commercial Code of the State of Michigan.

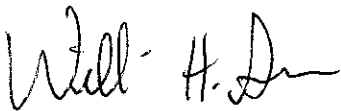
Partial drawings are permitted without canceling the Letter of Credit balance. This original Letter of Credit must be submitted to us together with any drawings thereunder for our endorsement of any payments affected by us and or cancellation.

It is a condition of this Letter of Credit that it shall be automatically extended for additional terms of one (1) year from the present or each future expiration date unless we give the Supervisor of Wells and the Company, at least ninety (90) days before said expiration date, written notice by certified mail, return receipt requested, or hand delivery, that we elect to terminate this Credit at the end of its then current term.

In the event we give notice of our election to terminate this Letter of Credit and SWD Specialties, LLC fails to replace this Letter of Credit with other financial assurances acceptable to the Department, you may draw on this Letter of Credit, up to the aggregate amount, less any prior drafts presented by the Department and paid by us, not sooner than thirty (30) days after the date of such notice by presentation of a draft marked "Drawn under Northwestern Bank Letter of Credit No. 0511153", accompanied by a statement purportedly signed by an authorized representative of the Department reading as follows:

"The Michigan Department of Environmental Quality is making this drawing because SWD Specialties, LLC has failed to replace this Letter of Credit with other financial assurances acceptable to the Department."

We hereby engage with you that drafts in conformity with the terms of this Letter of Credit will be duly honored upon presentation if presented on or after November 15, 2005 and on or before November 15, 2006. The amount of each draft must be endorsed on the reverse of this Letter of Credit by the negotiating financial institution.

A handwritten signature in dark ink, appearing to read "Will H. Green", with a stylized flourish at the end.

William H. Green
Vice President

December 13, 2005

United States Environmental Protection Agency
77 West Jackson Blvd.
Chicago, IL 60604-3590

Permit Number: MI-055-2D-C015
Facility Name: State Blair #5-21


To Whom It May Concern:

This letter is to provide notice of a transfer of an underground injection control permit from Kalkaska Oilfield Services of Kalkaska, Michigan, to SWD Specialties, LLC, 1019 Heatherton Road, P. O. Box 339, Johannesburg, MI 49751 [Bus # 989-732-0735/fax # 989-732-3714], pursuant to 40 CFR 144.38(b)(2). This notice includes a copy of the written agreement between the existing permit holder and the party purchasing the well property. Responsibility for this permit will be transferred on a date after January 15, 2006 when the parties are prepared to close in accordance with the October 5, 2005 Salt Water Disposal Well Purchase and Assignment Agreement.

This transfer will include permit responsibility, coverage and liability between the parties. The buyer, SWD Specialties, LLC, has met the requirements of Section 144.52(a)(7), and has the resources to close, plug and abandon the underground injection operation in a manner prescribed by the Director. See attached documentation.

Sincerely,

KALKASKA OILFIELD SERVICES

By 
Name: Rick Root
Title: Area Manager
4030 Columbus Drive NE
P. O. Box 1090
Kalkaska, MI 49646
Bus # 616-258-6026

UIC PERMIT TRANSFER AGREEMENT

WHEREAS, Arrow Energy Services, Inc. ("Arrow") and Key Energy Services, Inc. ("Key") entered into an Asset Purchase Agreement on April 29, 2005 to, in part, allow for the transfer of certain underground injection control wells that are permitted in the name of Kalkaska Oilfield Services of Kalkaska, Michigan.

WHEREAS, WellTech Eastern, Inc., Kalkaska Oilfield Services, Inc., Key Energy Services, Inc., and SWD Specialties, LLC entered into a Salt Water Disposal Well Purchase and Assignment Agreement on October 5, 2005 to transfer certain wells.

WHEREAS, in accordance with the aforementioned agreements, SWD Specialties, LLC, will acquire the underground injection control wells: Hogerheide #1-29 SWD, permit MI-079-2D-C001; Simpson #1-9, permit MI-079-2D-C008; White Oak #1 SWD, permit MI-065-2D-C008; Miller #23-41, permit MI-035-2D-C028; Wedow State Blair #2-28, permit MI-055-2D-C033; State Blair #5-21, permit MI-055-2D-C015; Kibler/Mather, permit MI-025-2D-C003; Barber/Kopicko, permit MI-065-2D-C007; Wlosinski #2-27, permit MI-079-2D-C016; and Tel B #2-25, Permit MI-10-12D-C030 ("Underground Injection Control Wells").

WHEREAS, federal regulations require an agreement for transfer of the Underground Injection Control Well permits.

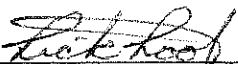
NOW, THEREFORE, in recognition of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and confessed, the parties hereto hereby agree as follows:

1. In accordance with 40 CFR 144.38(b)(2), Key and/or its wholly owned subsidiary, Kalkaska Oilfield Services, Inc., shall transfer the permit responsibility, coverage and liability for the Underground Injection Control Wells to SWD Specialties, LLC, on a date after January 15, 2006, when the parties are prepared to close in accordance with the October 5, 2005 Salt Water Disposal Well Purchase and Assignment Agreement.


2. SWD Specialties, LLC, can satisfy the financial responsibility requirements of 40 CFR 144.52(a)(7) for the Underground Injection Control Wells on or before the transfer date specified in paragraph 1 of this Agreement;

The parties hereto have executed this Transfer Agreement as of December 31, 2005.


KALKASKA OILFIELD SERVICES, INC.

By 
Name: Rick Root
Title: Area Manager
4030 Columbus Drive NE
P. O. Box 1090
Kalkaska, MI 49646
Bus # 616-258-6026


KEY ENERGY SERVICES, INC.

By 
Name: THOMAS E. MURPHY JR.
Title: VP- Performance Management
6 Desta Drive
Midland, TX 79705
Bus # 713-851-3721

ARROW ENERGY SERVICES, INC.

By 
Name: George Molski
Title: President
1019 Heatherton Road
P. O. Box 339
Johannesburg, MI 49751
Bus # 989-732-0735

SWD SPECIALITIES, LLC

By 
Name: George Molski
Title: Member
1019 Heatherton Road
P. O. Box 339
Johannesburg, MI 49751
Bus # 989-732-0735



**Northwestern
Bank**

625 S. Garfield Ave.
P.O. Box 809
Traverse City, MI 49685-0809
(231) 947-5490

www.nwbank.com

Irrevocable Letter of Credit # 0511153
Date: November 15, 2005
Expiration Date: November 15, 2006
State Blair 5-21 well
Part 615 Supervisor of Wells, 1994 PA 451, as amended

Supervisor of Wells
Michigan Department of Environmental Quality
P.O. Box 30256
Lansing, MI 48909-7756

We hereby issue our Irrevocable Letter of Credit #0511153 in your favor on behalf of SWD Specialties, LLC hereinafter known as the Company, for a sum of Twenty Five Thousand Dollars (\$25,000.00), available by your drafts at sight drawn on our institution, Northwestern Bank. Drafts must be marked "Drawn under Northwestern Bank Letter of Credit # 0511153 dated November 15, 2005".

This letter is issued to provide financial assurance to the State of Michigan for the well known as State Blair 5-21.

The Supervisor of Wells may draw on this Letter of Credit in the event (1) that the Department of Environmental Quality issues a Notice of Violation indicating that the Company has failed to comply with the provisions of PART 615 SUPERVISOR OF WELLS, 1994 PA 451, as amended in the final completion of the aforesaid well or wells. "Final Completion" means the locating, drilling, completing, producing, reworking, plugging, filling of pits, and clean up of well site, including the filing of prescribed records and approval thereof by the Supervisor of Wells; or (2) that the Company fails to provide the Supervisor of Wells with an extension of this Letter of Credit or other financial assurance; or (3) that the Company is adjudged insolvent or bankrupt. The Company shall be deemed, for purposes of this Letter of Credit, adjudged bankrupt upon any petition under Title 11 of the United States Code, filed on the Debtors behalf, and an order for relief granted by any of the United States District of Bankruptcy Courts.

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aforementioned, shall be governed by, and construed in accordance with the Uniform Commercial Code of the State of Michigan.

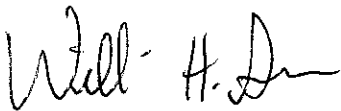
Partial drawings are permitted without canceling the Letter of Credit balance. This original Letter of Credit must be submitted to us together with any drawings thereunder for our endorsement of any payments affected by us and or cancellation.

It is a condition of this Letter of Credit that it shall be automatically extended for additional terms of one (1) year from the present or each future expiration date unless we give the Supervisor of Wells and the Company, at least ninety (90) days before said expiration date, written notice by certified mail, return receipt requested, or hand delivery, that we elect to terminate this Credit at the end of its then current term.

In the event we give notice of our election to terminate this Letter of Credit and SWD Specialties, LLC fails to replace this Letter of Credit with other financial assurances acceptable to the Department, you may draw on this Letter of Credit, up to the aggregate amount, less any prior drafts presented by the Department and paid by us, not sooner than thirty (30) days after the date of such notice by presentation of a draft marked "Drawn under Northwestern Bank Letter of Credit No. 0511153", accompanied by a statement purportedly signed by an authorized representative of the Department reading as follows:

"The Michigan Department of Environmental Quality is making this drawing because SWD Specialties, LLC has failed to replace this Letter of Credit with other financial assurances acceptable to the Department."

We hereby engage with you that drafts in conformity with the terms of this Letter of Credit will be duly honored upon presentation if presented on or after November 15, 2005 and on or before November 15, 2006. The amount of each draft must be endorsed on the reverse of this Letter of Credit by the negotiating financial institution.

A handwritten signature in dark ink, appearing to read "Will H. Green", with a stylized flourish at the end.

William H. Green
Vice President

RECEIVED

OCT 06 1997

UIC SECTION
EPA - REGION V

SURETY PERFORMANCE BOND

U.S. Environmental Protection Agency
Underground Injection Control
Financial Responsibility Requirement

BOND COVERS THE PLUGGING OF INJECTION WELLS

Date bond executed: JULY 22, 1997

Effective date: JULY 22, 1997

Principal: KALKASKA OILFIELD SERVICES, INC.
(Legal name of owner or operator)

5976 VENTURE WAY, MT. PLEASANT, MICHIGAN 48858
(Business address of owner or operator)

Type of organization: CORPORATION
(Individual, joint venture,
partnership, or corporation)

State of incorporation: MICHIGAN

Surety(is): UNITED PACIFIC INSURANCE COMPANY
(Name)

4 PENN CENTER PLAZA, PHILADELPHIA, PA 19103
(Business Address)

EPA identification number, name, address, and plugging and abandonment amount(s) for each injection well guaranteed by this bond. (Indicate plugging and abandonment amounts for each well. Attach separate list if necessary.)

Injection Well Information	Plugging & Abandonment Amount
Wedge St. Blair MI-055-2D-C033	\$ 9,100
State Blair #5-21 MI-055-2D-C015	\$ 9,500
Hogerheide #1-2 MI-079-2D-C001	\$ 7,500
Simpson #1-9 MI-079-2D-C008 (in process)	\$11,260
Barber-Kopicko #1-6 MI-065-2D-C007	\$20,000
Kibler-Mather #1-27 MI-025-2D-C033	\$11,350
Miller #23-41 MI-035-2D-C028	\$ 4,797

Total penal sum of bond: \$73,507.00**

Surety's bond number: U2723753

Full document is
in Welltech general
file



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 16 1997

REPLY TO THE ATTENTION OF:
WU-17J

CERTIFIED MAIL P 140 676 390
RETURN RECEIPT REQUESTED

David Stoops
Kalkaska Oilfield Services
418 South Maple Street
Kalkaska, Michigan 49646

Re: Minor-Modified Underground Injection Control (UIC) Permits
#MI-025-2D-C033, MI-055-2D-C015, MI-055-2D-C033, MI-065-2D-C007
and #MI-079-2D-C001

Dear Mr. Stoops:

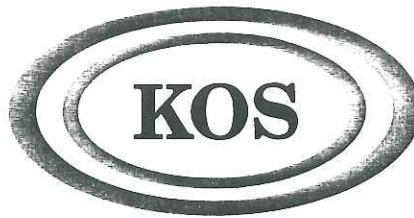
Enclosed are the final minor-modified pages for the Kalkaska Oilfield Services Kibler-Mather #1-27 (USEPA Permit #MI-025-2D-C033), State Blair #5-21 (USEPA Permit #MI-055-2D-C015), Wedow State Blair #2-28 (USEPA Permit #MI-055-2D-C033), Barber-Kopicko #1-6 (USEPA Permit #MI-065-2D-C007) and Hogerheide #1-29 SWD (USEPA Permit #MI-079-2D-C001) permits. They replace the correlated pages in the existing permits. Pursuant to 40 CFR 144.41(a), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Page 12/Reporting Requirements	Clarify item II(B)(3)(b)(ii) to apply to brine and non-brine injectate

In addition, pursuant to 40 CFR 144.41(e), the Kalkaska Oilfield Services permits for the "north set" of wells (Wedow State Blair #2-28, State Blair #5-21 and Hogerheide #1-29) were modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Attachment D/List of Approved Sources	Add sources N82: Essexville; N83 Pinconning West & South; N84 Rose City

Steve



KALKASKA OILFIELD SERVICES

500 So. Maple Street, P.O. Box 427
Kalkaska, Michigan 49646
Telephone 616-258-9134

RECEIVED

AUG 13 1996

EPA - REGION V

August 5, 1996

U.S. Environmental Protection Agency
Region 5
77 West Jackson Blvd.
Chicago, IL 60604-3590

Re: Hogerheide #1-29 SWD/Permit #MI-079-2D-C0001
State Blair #5-21 SWD/Permit #MI-055-2D-C015

Dear Sirs:

We have acknowledged your letter of final action in the Revoke-and-Reissue of the above referenced permits. We are responding with written notification that we have read and are familiar with the conditions of the received final USEPA permits.

If you have questions or need further information, please feel free to contact me at your earliest convenience.

Sincerely,

Dennis Hogerheide
President

mlj/DLS

Well Management Services, Inc.

222 E. Dansville Road, Dansville, Michigan 48819
(517) 623-6518

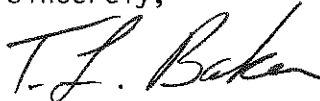
November 17, 1986

U.S. Environmental Protection Agency
Region 5 Class IID Salt Water Disposal Permit Agent
230 South Dearborn St.
Chicago, Illinois 60604

Dear Sir:

Pursuant to your request of Oct. 30, 1986, and to C.F.R. 40 §144.25, Kalkaska Oil Field Service, Inc., hereby submits a complete permit application for an existing Class IID salt water disposal well, Michigan permit #MIS 34713. The subject well, the State Blair #5-21, is located in the NW $\frac{1}{4}$, SE $\frac{1}{4}$, NE $\frac{1}{4}$, Sec. 21, T26N, R11W, Blair Township, Grand Traverse County, Michigan. If you have any questions regarding the enclosed, please call me at the above number or Kalkaska Oil Field Service, Inc., at (616) 258-9134.

Sincerely,



T.L. Baker
Well Management Services, Inc.
on behalf of Kalkaska
Production Company

RECEIVED

DEC 01 1986

UIC SECTION
EPA — REGION V

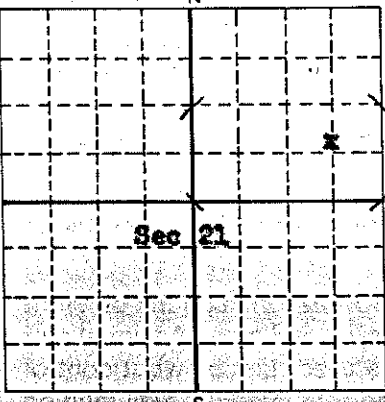
APPLICATION FOR PERM. TO DRILL A WELL FOR OIL, GAS, BRINE DISPOSAL, HYDROCARBON STORAGE OR FOR SECONDARY RECOVERY

Under Authority of Act 61, P.A. of 1939, As Amended.

NO. 15 1978 MAIL TO:
STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
Box 30028, Lansing, Michigan 48909

R 7207
Rev. 12/77

See Reverse Side Before Filling Out This Application

LOCATE WELL AND OUTLINE UNIT ON SECTION PLAT - 640 ACRES 		1. Application to drill a well for: Oil and/or Gas		2. Date 9-12-78		3. Fee enclosed \$100.00					
		4. Applicant's name(s) as it is on the surety bond(s) Northern Michigan Exploration Company									
		5. Permanent address 1 Jackson Square PO Box 1150 Jackson, MI 49204				6. Phone 517-787-9011					
		7. Lease name (owner of mineral rights) State of Michigan				8. Well No. 3-21					
		9. Surface owner Same									
		10. Address Gaylord, MI				11. Phone 517-732-2730					
		12. Drilling contractor Calverts Eastern Drilling Company									
		13. Address Gaylord, MI				14. Phone 517-732-2730					
FOR DIRECTIONALLY DRILLED HOLE SEE INSTRUCTIONS ON REVERSE SIDE.		15. Surface location NE 1/4 of SE 1/4 of NE 1/4 Section 21 T 26N R 11W									
		16. Township Blair				17. County Grand Traverse					
18. Locate well in two directions from nearest lines of quarter section and unit lines. (Surface location) <table border="0" style="width:100%"> <tr> <td style="width:50%"> 860 Ft. From South Line of quarter section (north-south) </td> <td style="width:50%"> 660 Ft. From East Line of quarter section (east-west) </td> </tr> <tr> <td> 465 Ft. From North Unit line (north-south) </td> <td> 660 Ft. From East Unit line (east-west) </td> </tr> </table>								860 Ft. From South Line of quarter section (north-south)	660 Ft. From East Line of quarter section (east-west)	465 Ft. From North Unit line (north-south)	660 Ft. From East Unit line (east-west)
860 Ft. From South Line of quarter section (north-south)	660 Ft. From East Line of quarter section (east-west)										
465 Ft. From North Unit line (north-south)	660 Ft. From East Unit line (east-west)										
19. Kind of tools to be used (Cable, rotary, combination) Rotary		20. Formation in which well is to be completed Niagaran		21. Intended depth of well 5900'							
22. Program of casing, sealing, cementing and completing well (SEE REVERSE SIDE) Approx. 100' of 16" conductor pipe driven. Approx. 650' of 11 3/4" surface casing cemented to surface. Approx. 3400' of 8 5/8" intermediate casing installed in accordance with 80 #2-73, Amended. 5 1/2" production casing at T.D. if necessary and cemented as required. NOTE: A survey of elevation will be taken on subject well as required.											
CASING IS NOT TO BE STRIPPED FROM THE HOLE AND NO CHANGE IS TO BE MADE IN THE PROGRAM OUTLINED ABOVE WITHOUT APPROVAL OF THE SUPERVISOR OF WELLS OR HIS AUTHORIZED REPRESENTATIVE											
APPLICANT AGREES TO COMPLY WITH THE PROVISIONS OF ACT 61, PUBLIC ACTS OF 1939, AS AMENDED, AND RULES PERTAINING TO THE LOCATING, DRILLING, CASING, SEALING, COMPLETING, PRODUCING, AND PLUGGING OF WELLS. BEFORE COMMENCING DRILLING OPERATIONS, CONTACT THE NEAREST FIELD OFFICE. (See reverse side)											
23. Send correspondence and permit to: William H. Kirschke				24. Phone 616-946-0756							
25. Address 507 Bay Street Traverse City, MI 49684											
LEAVE BLANK Date Issued 11-14-78		Permit No. 32,716		26. Name of applicant's agent (Print) Northern Michigan Exploration Company							
				27. Signature of agent <i>Mark Kulian</i>							

FOR CASHIER'S USE ONLY. DO NOT WRITE IN THIS SPACE

For Geological Survey Use Only

- | | |
|---------------------|----------------------|
| 1. White - Lansing | 4. Goldenrod - Field |
| 2. Canary - Cashier | 5. Green - Applicant |
| 3. Blue - Field | |

32716

STATE BLAIR 3-21

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
SUPERVISOR OF WELLS

No 4896

PERMIT TO DRILL

For Auditing Only

(POST WHITE COPY OF PERMIT AT WELL LOCATION)

Permit No. 32,716 Issue Date November 14, 1978 Termination Date November 14, 1979

Permission is hereby granted to Northern Michigan Exploration Company
Owner
1 Jackson Square, P. O. Box 1150, Jackson, MI 49204
Address

Lease Name State-Blair Well Number 3-21

Location NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 21, T.26N., R.11W., Blair Twp., Grand Traverse Co.

Footages 860' from south and 660' from east line of quarter section

465' from north and 660' from east unit line

Type of Well Oil and/or Gas Kind of Tools Rotary Objective Formation Niagaran Intended Depth 5900'

This permit is issued subject to the provisions of Act 61, P.A. 1939, as amended, and rules, requirements, or orders issued by the Supervisor of Wells and Department of Natural Resources.

By *David T. Bortan*
SUPERVISOR OF WELLS

CASING AND SEALING REQUIREMENTS

Approx. 100' of 16" conductor pipe driven. Approx. 650' of 11 3/4" surface casing, cemented to surface. Approx. 3400' of 8 5/8" intermediate casing installed in accordance with S.O. #2-73, amended. 5 1/2" production casing at TD, if necessary, and cemented as required.

(Note: A survey of elevation will be taken on subject well as required.)

NOTICE

IT IS FURTHER MADE A REQUIREMENT OF THIS PERMIT that the applicant give notice to the Public Utilities in accordance with Act 53, P.A. 1974 C.L. 460.701 to 460.718 and comply with each of the requirements of the act.

DRILLING PERMIT ISSUED on the basis of the drilling, casing and sealing program as outlined on the application for permit and subject to requirements as set forth above. No change or alteration is to be made without the permission and approval of the Supervisor of Wells or his authorized representative.

DRILLING OPERATIONS ARE NOT TO BE COMMENCED until all the well location requirements have been completed and the permit has been posted in a conspicuous place at the well site. The nearest field office of the Department of Natural Resources must be notified prior to the commencement of drilling, deepening, reworking, and plugging.

DEPARTMENT FIELD OFFICES

Region II, Roscommon _____	Phone 517-275-5151	Region III, Lansing _____	517-373-1235
Cadillac _____	Phone 616-775-9728	E. Lansing _____	517-339-8638
Gaylord _____	Phone 517-732-1522	Imlay City _____	313-724-2015
Grayling _____	Phone 517-348-6371	Plainwell _____	616-685-6851
Mt. Pleasant _____	Phone 517-773-9965	Grand Rapids _____	616-456-5071

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGY DIVISION

SURVEY RECORD OF WELL LOCATION

(Submit in quadruplicate with Application for Permit to Drill a Well for Oil or Gas,
Brine Disposal, Secondary Recovery, or Gas or L.P.G. Storage)

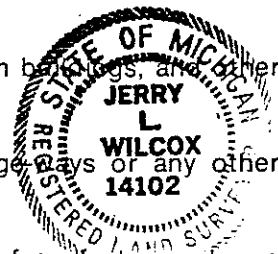
78332

LESSEE (OWNER OF LEASE RIGHTS) <div style="text-align: center; font-weight: bold;">NORTHERN MICHIGAN EXPLORATION COMPANY</div>	
LESSOR (OWNER OF MINERAL RIGHTS) <div style="display: flex; justify-content: space-between;"> State of Michigan (State-Blair 3-21) </div>	WELL NO. <div style="text-align: center;">3-21</div>
LOCATION <div style="display: flex; justify-content: space-between; font-weight: bold;"> NE ¼ OF SE ¼ OF NE ¼ SECTION 21 T. 26N R. 11W </div>	
TOWNSHIP <div style="text-align: center; font-weight: bold;">Blair</div>	COUNTY <div style="text-align: center; font-weight: bold;">Grand Traverse</div>
<div style="border: 1px solid black; padding: 5px;"> PLAT BELOW REPRESENTS ONE FULL SECTION (1 Mile Square) <div style="float: right; text-align: center;"> N </div> </div>	<ol style="list-style-type: none"> Outline drilling unit and spot well location on plat at left. Where drilling unit crosses section lines, divide the plat into an east half and a west half OR a north half and a south half (which ever applies). Outline the unit and locate the well in two directions from NEAREST quarter section and unit lines. Location of well in two directions from NEAREST quarter section and unit lines is: <div style="margin-top: 10px;"> <div>860 ft. from <u>South</u> line of Quarter Section <small>(north-south)</small></div> <div>660 ft. from <u>East</u> line of Quarter Section <small>(east-west)</small></div> <div>465 ft. from <u>North</u> line of unit <small>(north-south)</small></div> <div>660 ft. from <u>East</u> line of unit <small>(east-west)</small></div> </div> Describe wellsite marker. Show or describe access route if it is not readily accessible. <u>Well site is marked with a red painted wood stake. Access to the site may be obtained by the use of an existing trail road beginning at the North 1/4 Corner of Section 21, then running South and Easterly near the well site.</u>
<div style="text-align: center;"> </div>	
<div style="text-align: center;">SECTION 21</div>	
(Scale of Plat — 1 inch equals 1320 ft.)	

4. ON-SEPARATE PLAT OR PLOT PLAN:

- Locate, identify, and show distances to all roads, power lines, residences, farm buildings, and other structures within 300 feet of the stake;
- Locate, identify, and show distances to all lakes, streams, swamps, drainage ways or any other surface water features within 1320 feet of the stake.

- In an ENVIRONMENTAL IMPACT ASSESSMENT describe all structures and surface features shown detailing plans for hazards prevention and erosion control (See instructions and guidelines for preparation of an environmental impact assessment).



NAME OF INDIVIDUAL WHO SURVEYED WELL SITE <div style="display: flex; align-items: center;"> <div> Jerry L. Wilcox, RLS #14102 </div> </div>	DATE 8-25-78	TITLE President
ADDRESS <div style="display: flex; justify-content: space-between;"> J. L. WILCOX & ASSOCIATES, INC. 7230 North U.S. 131 Manton, Michigan 49663 </div>		
I CERTIFY THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF		
SIGNATURE (LESSEE OR AUTHORIZED REPRESENTATIVE) 	ADDRESS (IF DIFFERENT THAN LESSEE)	DATE (MONTH, DAY, YEAR) 9-12-78

SEP 14 1979

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES

LOG OF OIL, GAS, DISPOSAL OR STORAGE WELL (ACT 61)

Submit in DUPLICATE Within 30 Days after Well Completion

PERMIT NUMBER

32,716 PRELIMINARY

DEEPENING PERMIT NUMBER

SEP 18 1979

CENSING HAS ORIGINAL COPY

NAME(S) & ADDRESS OF OWNER(S) SHOWN ON PERMIT Northern Michigan Exploration Company One Jackson Square, PO Box 1150 Jackson, MI 49204				NAME & ADDRESS OF DRILLING CONTRACTOR(S) L & G Drilling Company 3959 E. River Road Mt. Pleasant, MI 48858			
LEASE NAME(S) & WELL NUMBER SHOWN ON PERMIT State-Blair #3-21						DIRECTIONALLY DRILLED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
SURFACE LOCATION NE SE NE		SECTION 21	TOWNSHIP 26N	RANGE 11W	TOWNSHIP NAME Blair		
FOOTAGES (North/South) 860 Ft. from South		Line and 660		(East/West) Ft. from East		COUNTY NAME Grand Traverse	
SUBSURFACE LOCATION		SECTION	TOWNSHIP	RANGE	TOWNSHIP NAME		
FOOTAGES (North/South)		Line and		(East/West) Ft. from		COUNTY NAME	
Line of quarter section		Line of quarter section					
DATE	DRILLING BEGUN 6/13/79		TOTAL DEPTH OF WELL Driller 5836 Log 5827		TYPE WELL D & A		ELEVATIONS
	DRILLING COMPLETED 6/29/79		FORMATION AT T.D. Gray Niagaran		FT. DRLD. - ROTARY TOOLS From 0 To 5827		
	WELL COMPLETED		PRODUCING FORMATION(S)		FT. DRLD. - CABLE TOOLS From To		
					K.B.	900.3	R.F. 898.5
					R.T.	-	Grd. 885

CASING, CASING LINERS AND CEMENTING

PERFORATIONS

SIZE	WHERE SET	CEMENT	Ft. Pulled	DATE	NUMBER HOLES	INTERVAL PERFORATED	OPEN	
16"	64'	Driven					YES	NO
11 3/4"	652'	425		7/17/79	5	5591'-5598'		X
8 5/8"	3284'	200	2617'	7/31/79	10	5507'-5551'		X
5 1/2"	5821'	350	4000'	8/3/79	10	5558'-5581'		X

GROSS PAY INTERVALS

ALL OTHER OIL AND GAS SHOWS OBSERVED OR LOGGED

FORMATION	OIL OR GAS	FROM	TO	FORMATION	OIL OR GAS	DEPTH	WHERE OBSERVED (X)				
Niagaran		5475	5628				Sam- ples	Odor	Pits	Mud Line	Gas Log.
							Fill Up				

STIMULATION BY ACID OR FRACTURING

WATER FILL UP (F.U.) OR LOST CIRCULATION (L.C.) (X)

DATE	Interval Treated	Materials and amount used	FORMATION	F.U.	L.C.	DEPTH	AMOUNT
7/17/79	5591'-5598'	1650 gals 28% HCL					
7/31/79	5507'-5551'	10,000 gals 28% HCL					
		13,340 gals Water					
8/9/79	5558'-5581'	2500 gals 28% HCL					

MECHANICAL LOGS, LIST EACH TYPE RUN

DEPTH CORRECTION DEVIATION SURVEY PLUGGED BACK

Brand	(X)	LOG TYPES	LOGGED INTERVALS	DEPTH	CORRECT'N	RUN AT	DEGREES	YES	NO	DEPTH
Schlumberger	X	MLL	5298'-5800'	5836'	5827'					
Birdwell		DLL	5300'-5799'							
		CNL-FDC	200'-5826'							
McCullough		CBL-SS	3950'-5663'							

N-PDC

5250'-5666'

PRODUCTION TEST DATA

OIL - Bbls/day	GRAVITY - °API	COND. Bbls/day	GAS - MCF/day	WATER - Bbls/day	H ₂ S - Grains/100 cu. ft.	B.H.P. AND DEPTH
0	-	0	342.9	12	0	1773 psig @ 5561'

I AM RESPONSIBLE FOR THIS REPORT. WITHIN MY KNOWLEDGE ALL FACTS ARE TRUE AND COMPLETE.

DATE 9/12/79	TITLE District Drilling & Production Supt.	SIGNATURE <i>William H. Kirschke</i>
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NOTICE REPORT COMPLETE SAMPLE AND FORMATION RECORD AND DRILL STEM TEST INFORMATION ON REVERSE SIDE

R - 7210
Rev. 12/75

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LOG OF OIL, GAS, DISPOS OR STORAGE WELL (ACT 61)
Submit in **DUPLICATE** Within 30 Days after Well Completion

JUL 19 1979

PERMIT NUMBER
32,716 **PRELIMINARY**
OPENING PERMIT NUMBER

NAME(S) & ADDRESS OF OWNER(S) SHOWN ON PERMIT Northern Michigan Exploration Company One Jackson Square, PO Box 1150 Jackson, MI 49204				NAME & ADDRESS OF DRILLING CONTRACTOR(S) L & G Drilling Company 3959 E. River Road Mt. Pleasant, MI 48858				
LEASE NAME(S) & WELL NUMBER SHOWN ON PERMIT State-Blair #3-21						DIRECTIONALLY DRILLED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
SURFACE LOCATION NE SE NE		SECTION 21		TOWNSHIP 26N		RANGE 11W		
TOWNSHIP NAME Blair								
FOOTAGES (North/South) 860 Ft. from south Line and 660 Ft. from east Line of quarter section						COUNTY NAME Grand Traverse		
SUBSURFACE LOCATION		SECTION		TOWNSHIP		RANGE		
FOOTAGES (North/South) Ft. from _____ Line and _____ Ft. from _____ Line of quarter section						COUNTY NAME		
D A T E	DRILLING BEGUN 6/13/79		TOTAL DEPTH OF WELL Driller 5836 Log 5827		TYPE WELL		ELEVATIONS	
	DRILLING COMPLETED 6/29/79		FORMATION AT T.D. Gray Niagaran		FT. DRLD. - ROTARY TOOLS From 0 To 5827		K.B. 900.3	R.F. 898.5
	WELL COMPLETED		PRODUCING FORMATION(S)		FT. DRLD. - CABLE TOOLS From _____ To _____		R.T. -	Grd. 885

CASING, CASING LINERS AND CEMENTING

PERFORATIONS

SIZE	WHERE SET	CEMENT	Ft. Pulled	DATE	NUMBER HOLES	INTERVAL PERFORATED	OPEN	
							YES	NO
16"	64'	driven						
11-3/4"	652'	425						
8-5/8"	3284'	200						
5 1/2"	5821	350						

GROSS PAY INTERVALS

ALL OTHER OIL AND GAS SHOWS OBSERVED OR LOGGED

FORMATION	OIL OR GAS	FROM	TO	FORMATION	OIL OR GAS	DEPTH	WHERE OBSERVED (X)					
							Samples	Odor	Pits	Mud Line	Gas Log.	Fill Up
Niagaran		5475	5628									

STIMULATION BY ACID OR FRACTURING

WATER FILL UP (F.U.) OR LOST CIRCULATION (L.C.) (X)

DATE	Interval Treated	Materials and amount used	FORMATION	F.U.	L.C.	DEPTH	AMOUNT

MECHANICAL LOGS, LIST EACH TYPE RUN

DEPTH CORRECTION DEVIATION SURVEY PLUGGED BACK

Brand	(X)	LOG TYPES	LOGGED INTERVALS	DEPTH	CORRECT'N	RUN AT	DEGREES	YES	NO	DEPTH
Schlumberger	X	MLL	5298-5800	5836	5827	SEE ATTACHED SHEET				
Birdwell		DLL	5300-5799							
		CNL-FDC	200-5826							

PRODUCTION TEST DATA

OIL - Bbls/day	GRAVITY - °API	COND. Bbls/day	GAS - MCF/day	WATER - Bbls/day	H ₂ S - Grains/100 cu. ft.	B.H.P. AND DEPTH
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I AM RESPONSIBLE FOR THIS REPORT. WITHIN MY KNOWLEDGE ALL FACTS ARE TRUE AND COMPLETE.

DATE 7/18/79	TITLE Petroleum Engineer	SIGNATURE <i>Rick Sandweit</i>
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NOTICE REPORT COMPLETE SAMPLE AND FORMATION RECORD AND DRILL STEM TEST INFORMATION ON REVERSE SIDE

R - 7210
Rev. 12/75

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION

DNR DISTRIBUTION
Permittee — Orig. & 1 copy
Division Office — 2 copies
Field Office — File copy
Others — On request

PERMIT NUMBER
32716
FIELD NAME

PERMIT TO PLUG AND ABANDON

NAME AND ADDRESS OF PERMITTEE

Northern Michigan Exploration Co.

LEASE NAME AND WELL NO.

State Blair 3-21

LOCATION (1/4 1/4 or other)

SECTION

TOWNSHIP

COUNTY

NE SE NE.

21

T 26N R 11W

Blair

Grand Traverse

TYPE OF WELL (Oil, Gas, Dry Hole, etc.)

DATE COMPLETED

DATE PLUGGING WILL START

PLUGGING PERMIT REQUESTED BY & DATE

Dry hole

8/20/79

8/21/79

8/20/79

Mark Keelan

LAST PRODUCTION

PLUGGING TO BE DONE BY

BOPD

BWPD

MCFGPD

DATE

Poole & Dowell

PERMIT MAILED TO

COPIES MAILED TO

NMEC

507 Bay St.

Traverse City, MI 49684

CASING AND CEMENTING RECORD

HOLE DIA.	CASING DIA. & WT./FT.	DEPTHS SET	CEMENT QUANTITY, TYPE, ADDITIVES	CMT. TOP.	PERFORATIONS
	16"	64	DP		5558-5581
	113/4"	650	425	circ	(10 holes)
	85/8"	3284	200	2640	
	5 1/2"	5821	350		

KB 900.3

E LOG TOPS:

ANT 1215

TF 1402

TL 1460

BELL 2043

DD 2150

RCA 2216

DRA 2325

DRS 2378

MASS 2924

RICH 2968

GEOLOGIC DATA; GAS AND OIL SHOWS; DRILLING AND COMPLETION DATA:

AMH 3164

BB 3362

BI 3790

SAL 4078

F UNIT 4104

F SALT 4140

E UNIT 4760

D SALT 4876

C SH 4908

B SALT 5006

A2C 5348

A2E 5414

A1C 5432

NIA 5469

GR 5677

TD 5827

PLUGGING REQUIREMENTS*

Plugging requirements outlined are to be executed in accordance with the provisions of Act 61, P.A. 1939, as amended, and rules and orders adopted thereunder.

Set cmt. retainer 5490'± and squeeze 50 sx C1 A thru perfs. Pull out retainer and spot 35 sx top retainer. Freept. and pull 5 1/2" and 85/8". Run tubg top 85/8" stub and spot 75 sx. Spot 100 sx at 2200'. 75 sx at 1500, 100 sx at 675' and 10 sx top surf cg. Surf cg cut 3' below grd. level & capped w/welded plate.

*NOTE: BONDS CANNOT BE RELEASED UNTIL A PLUGGING IS COMPLETED, CELLAR RAT HOLE AND PITS FILLED, WELL SITE RESTORED AND RECORDS FILED. WATER WELLS MUST BE PLUGGED ACCORDING TO RULE 166 OF ACT 294 P.A. 1965, "GROUND WATER QUALITY CONTROL". It is further made a requirement of this permit that the applicant give notice to the public utilities in accordance with Act 53, P.A. 1974 C.L. 460.703 to 460.718 and comply with each of the requirements of the act.

AUTHORIZED BY (signature)

OFFICE

DATE

Cadillac, Dist #6

8/21/79

NOTE: WELL PLUGGING RECORD Form R-7213 to be filed in TRIPLICATE within 30 days after completion.

R-7229
Rev. 11/77

AUG 27 1979

PERMIT NUMBER	32,716 AUG
FIELD NAME	Blair "21"

COMPLETE NAME(S) AND ADDRESS OF WELL OWNER Northern Michigan Exploration Company			
COMPLETE LEASE OR FARM NAME(S) State Blair			WELL NUMBER 3-21
WELL LOCATION NE ¼ SE ¼ NE ¼ SEC.21 T.26N R. 11W		TOWNSHIP Blair	COUNTY Grand Traverse
TYPE OF WELL (Oil, Gas, Dry Hole, etc.) Dry Hole		TOTAL DEPTH 5827'	FORMATION Niagaran
DATE PLUGGING STARTED 8-21-79	DATE PLUGGING COMPLETED 8-23-79	DEPT. REPRESENTATIVE(S) WHO ISSUED PERMIT OR WITNESSED PLUGGING John M. Snider	

CASING RECORD			
SIZE CASING	DEPTH SET	AMOUNT RECOVERED	SHOT OR RIPPED
16"	64'	None	
11 3/4"	650'	None	
8 5/8"	3284'	2617'	Shot
5 1/2"	5821'	4000'	Shot


BRIDGES OR PLUGS		
TYPE (Brush, Stone, Cement, Mechanical, etc.)	DEPTH PLACED	SACKS OF CEMENT AND ADDITIVES
Cement Retainer	5475'	50 above 35 below
Cement	2580'	75 sx
Cement	2200'	100 sx
Cement	1500'	75 sx
Cement	675'	100 sx

Were tools, tubing, casing, etc., lost or left in the hole before or during plugging?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If yes, give details: <u>See above casing record.</u>
Did a Service Company pump mud, spot cement, or set bridge plugs?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If yes, give name and address: <u>Dowell. Kalkaska, MI</u>
Was the well plugged by a Company or Contractor other than Owner or Operator?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If yes, give name and address: <u>L & G Drilling Company.</u>
Representatives of Owner, Operator, Company, or Contractor who witnessed plugging: <u>Mark Keelean</u>		

DESCRIBE IN DETAIL HOW WELL WAS PLUGGED Run Baker cement retainer on 2 7/8" tubing to 5475'. Set retainer and squeeze 50 sx into perforations. Pull out of retainer and spot 35 sx on top. Cut and pulled 4000' of 5 3/4" casing. Cut and pulled 2617' of 8 5/8" casing. Run tubing to 2580', establish circulation and spot a 75 sx plug. Spot 100 sx @ 2200', 75 sx @ 1500', 75 sx @ 675'. 10 sx in top of 11 3/4", cut 3' below ground level and cap with 1/2" steel plate.

(USE REVERSE SIDE IF NEEDED)

"I state that I am authorized by said Owner or Operator to make this report; and that this report was prepared under my supervision and direction, and that the facts stated herein are true, correct and complete to the best of my knowledge."

NAME AND TITLE (Typed or Printed) Mark Keelean Drilling & Completion Supervisor		COMPANY NAME AND ADDRESS Northern Michigan Exploration Co. 507 Bay Street Traverse City, MI 49684
SIGNATURE 	DATE (Month, Day, Year) 8-24-79	

12/12/79 Location leveled and water well pulled Booker

William Book Geological Survey 12.13.79

Grd.				K.B.				R.F.			
Form	Depth	Log	Datum	Form	Depth	Log	Datum				
Drift	KB	900.3									
E LOG TOPS:											
ANT 1215				Sal							
TG	TF	1402		F							
BL	TL	1460		E							
Stray	BELL	2043		D							
Pay	DD	2150		C							
Wtr	RCA	2216		BEv.							
Marsh	DRA	2325		A2C							
Wtr	DRS	2378		A2Ev							
Cwrr	MASS	2924		Alc							
Sun	RICH	2968		Pay							
Ber	AMH	3164		A-1 Ev							
Pay	BB	3362		BN							
Wtr	RI	3790		Pay							
Ant	SAL	4078		GN							
TF	F UNIT	4104		CI							
TL	F SALT	4140		Cinn							
Pay	E UNIT	4760		U							
Wtr	D SALT	4876		Trent							
Dd	C SH	4908		Pay							
Pay	B SALT	5006		BRF							
Wtr	A2C	5348		Gw							
RCA	A2E	5414		SP.							
RCD	A1C	5432		Pdc							
DR	NIA	5469		Camb							
M.S.	GR	5677									
S.Z.	TD	5827									
M.A.				PE							
Rich.				TD							
				PBTD							
Sylv.				I.P.							
Plug'g Permit				CORES, D.S.T.'s, Shows, L.C.Z.'s.							
Plug'g Comm.											
Plug'g Comp.											
Plug'g Record											
Site Recl'm											
Site App'l.											

R-7217

Date PI 8/21/79 Permit No 32716
 Co. NMEC
 Lease State Blair No. 3-21
 Twp. Blair Co. Grand Tray.
 Loc. NE SE NE, Sec. 21 T. 26 R. 11W
 _____ from _____ and _____ from _____ line of ¼ Sec.
 _____ from _____ and _____ from _____ unit line

Contractor Poole & Dowell

Comm. PLUG 8/21/79 Comp. _____

SEC. 21

PLUGGING SUMMARY

				Bridges/Plugs	Casing Pulled

HOLE		CASING			CEMENT	
Dia.	Depth	Dia.	Wt.	Depth	Sacks	TOC
16"	64				DP	
11 3/4"	650				425	circi.
8 5/8"	3284				200	2640
5 1/2"	5821				350	

Cmt retrn 5490 & squeeze 50 sx CI A
 thru perfs. Pull out retrn & spot 35 top
 retrn. Freept & pull 5 1/2" & 8 5/8".
 Run tubg top 8 5/8" stub & spot 75 sx
 Spot 100 sx at 2200. 75 sx at 1500
 100 sx at 675 and 10 sx top surf
 csg Surf csg cut 3' below grd cap
 w/welded plate.

FORM.	DEPTH	LOG	DATUM
DRIFT			
TG			
BL			
STRAY	ANT		1215'E
MARSH	TF		1402'E
CRR	TL		1460'E
SUN	BELL		2043'E
BE	DD		2150'E
ANT	RCA		2216'E
TF	DRA		2325'E
TL	DRS		2378'E
ALP	MASS		2924'
BELL			
DD			
RCA			
RCD	RICH	2971'	2968
DR	AMH		3164'E
SYLV			
BB			3362'E
BI	3048'S		3790'E
SAL			4078'E
E F UNIT			4104'E
D F Salt			4140'E
C	E Unit		4760'E
B EVAP	Dsalt		4876
A2CARB	CSh 4909's		4908
A2EVAP	BUnit 4979's		
A1CARB	BSalt 5011'S		5006'E
A1EVAP	A2C 5347'dr		5348
B NIAG	A2E 5418'dr		5414
W NIAG	A1C 5445'Dr		5432
CL			
CINN			
TRENT	Nia 5476'Dr		5469
BRF	Gray		5677-
GW			
SP	TD		5827'
PDC			
CAMB			
PREC			
PBTD			
T.D.			

PERFORATIONS AND TREATMENT

DATE	HOLES	DEPTH	ACID	REMARKS
			CUT REC.	DST 1
CORE 1				
CORE 2				
CORE 3				
CORE 4			IHMP	FSIP
CORE 5			ISIP	FHMP
CORE 6			IFP	
CORE 7			FFP	
CORE 8				
6/15/79	10 3/8"	650 & cmt'd w/228	BST 2	
225 sx poz & 200 sx C1 A.	Circled 20 bbls to surf.	(BB) 6/18/79		
mud wt 10.5#/gal	28 vis 200,000 chs.	(BB) 6/20/79		
gal 30 vis 230,000 chs.	To set 85/8" at this pt & to cmt w/200 sx			
C1 A. (BB)	* 6/22/79 TOC 2640 P/L	IHMP	FSIP	
at 3124 (BB)	6/25/79 replacing	ISIP	FHMP	
leaky valve. Pres mud wt 10.4#/gal	IFP			
29 vis 260,000 chs.	(BB) 6/27/79	*** double ck press tested	BBS	
ck manifold to 3000 Psig for 20 mins	Set pkr at 3100' & tested			
85/8" csg to 2500 psig surf pres	BST 3			
for 20 mins. No leaks Mud wt 11.0 lb/gal	vis 34 secs/ft. chs			
220,000 PPM & filtrate At 15.*	(JFW) 8/2/79 ran 5 1/2" to 5821 & cmd			
w/250 sx poz & 100 sx C1 A (BB)				
8/13.	S.I.P. 1500.	IHMP	FSIP	
	S.I.P. 1500	ISIP	FHMP	
		IFP		
10/64th choke 8 HRS	FFP			
FLOWED 220 JUV + 4.5 BBLs	CORRECTIONS			
splt WATER				
8/21/79.	1534 RD P.L - POOLE MOVING IN.			
12/12/79 Loc leveled & wtr well	pulled. (BB)			
R7304 R/73				



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
**UNDERGROUND INJECTION CONTROL
PERMIT APPLICATION**

(Collected under the authority of the Safe Drinking
Water Act, Sections 1421, 1422, 40 CFR 144)

Form Approved OMB No. 2040-0042. Expires

I. EPA ID NUMBER

U

READ ATTACHED INSTRUCTIONS BEFORE STARTING
FOR OFFICIAL USE ONLY

Permit/Well Number	mt-055-20-0015	
Permit/Well Number	Comments	
II. APPLICANT NAME AND ADDRESS		III. OWNER/OPERATOR AND ADDRESS
Name Blair #5-21 S.W.D. Mich. Permit #34713		Owner/Operator Name Dennis Hogenheide
Address SE/4, NE/4 Section 21, T26N, R11W		Street Address 418 S. Maple st.
City and Traverse County Mich.		City Kalkaska
State Mich.		State Mich.
ZIP Code 49684		ZIP Code 49646
IV. SIC CODES		
Federal <input checked="" type="checkbox"/> B. State <input type="checkbox"/> C. Private		
Public <input type="checkbox"/> E. Other (Explain)		
V. STATUS (Mark 'x')		
Date Started mo day year 8 2 82		<input checked="" type="checkbox"/> B. Modification/Conversion <input checked="" type="checkbox"/> C. Proposed
VI. TYPE OF PERMIT REQUESTED (Mark 'x' and specify if required)		
Individual <input type="checkbox"/> B. Area	Number of Existing wells 1	Number of Proposed wells
Name(s) of field(s) or project(s) Blair pool A		
VII. CLASS AND TYPE OF WELL (see reverse)		
Class(es) code(s)	B. Type(s) (enter code(s))	C. If class is "other" or type is code "x," explain
	D	
D. Number of wells per type (if area permit)		
VIII. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT		
Latitude		
B. Longitude		
Township and Range		
Min	Sec	Deg
38	22	85
Min	Sec	Twsp
38	21	26N
Range	Sec	1/4 Sec
11W	21	NE
Feet from		
860		
Line	Feet from	Line
S	760	E
X. INDIAN LANDS (Mark 'x')		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
COMMENTS		
Complete the following questions on a separate sheet(s) and number accordingly; see instructions		
CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with application:		
CERTIFICATION		
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of these individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 132)		
Signature and Title (Type or Print)		
Dennis Hogenheide		
B. Phone No. (Area Code and No.)		
616-258-9134		
D. Date Signed		
11-24-86		

APPLICATION FOR PERMIT TO DRILL OR DEEPEN A WELL FOR OIL, GAS, BRINE DISPOSAL, HYDROCARBON STORAGE OR SECONDARY RECOVERY

Under Authority of Act 61, P.A. of 1939, As Amended

State Lease No. 8998

MAIL TO:
STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
Box 30028, Lansing, Michigan 48909

SEE INSTRUCTIONS ON REVERSE SIDE

2. ☐ Fed. Employer Ident. No. ☐ Soc. Security No.
38-225-7938

3. Application for permit to drill for:
☒ Oil and Gas ☐ Brine Disposal ☐ Hydrocarbon Storage ☐ Secondary Recovery ☐ Deepen ☐ Application ☐ Cancel and Transfer
4. Application to: (no fee required)
Revise ☐ Application ☐ Cancel and Transfer
5. Fee enclosed:
☐ No ☒ Yes \$ 100.00

6. Do prior permits exist for this well?
☒ No ☐ Yes ☐ Drilled ☐ Termin'd

7. List each permit number

8. Applicant: (name each "owner" as they are bonded)

Robert Raffaele, Inc.

9. Address: (operator only if more than one "owner")

Phone:

346 E. Front St., Traverse City, MI 49684 616-946-1140

10. Lease or well name: (be brief as possible)

Well number:

State-Blair

5-21

11. Surface owner:

State of Michigan

12. Address:

Phone:

13. Surface location description

NW 1/4 of SE 1/4 of NE 1/4 Section 21 T. 26N R. 11W

14. Township

County

Blair

Grand Traverse

15. Bottom hole location description if directional drill

1/4 of 1/4 of 1/4 Section

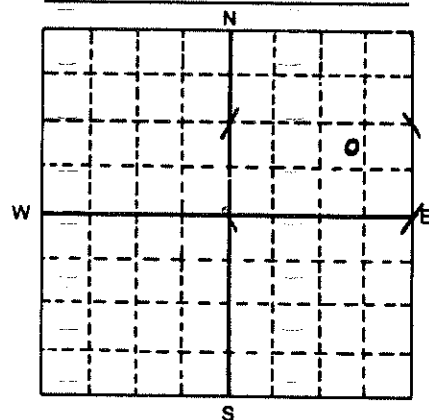
T.

R.

16. Township

County

LOCATE WELL AND OUTLINE UNIT
ON SECTION PLAT--640 ACRES



17. LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT.

a. Surface Location: 860 ft. from (N/S) South Line of quarter section AND 760 ft. from (E/W) East Line of quarter section.
b. Bot. Hole Location: ft. from (N/S) Line of quarter section AND ft. from (E/W) Line of quarter section.
c. Drilling Unit: 460 ft. from (N/S) North Line of drilling unit AND 760 ft. from (E/W) East Line of drilling unit.

18. Drilling contractor:

Address:

Telephone:

Nicor Drilling Co.

Box 36, 1254 W. M-32, Gaylord, MI

517-732-2370

19. Kind of tools (Rotary, cable, combination)

20. Intended depth

21. Intended formation

22. Is sour oil or gas expected?

Rotary

5360'

Brn. Niag.

☒ No ☐ Yes

(See instructions, Item 6)

23. Blowout control (Detail equipment type, size, trim, rating, testing, choke manifold, etc. See instructions, Item 7)

24. PROPOSED DRILLING, CASING, CEMENTING AND SEALING PROGRAM

HOLE			CASING			CEMENT		MUD		
Depth	Geol. Form	BH Dia.	O.D. Size	Wt./Ft. — Grade — Condition	Depth	Sacks	W.O.C.(hrs.)	Wt.	Vis.	W.L.
			16"	New	90'	Driven				
650'	Shale	15"	11 3/4"	42 #/ft K-55 New	650'	Circ.	12		SPUD	MUD
3300'	Amhstbg	10 5/8"	8 5/8"	32 #/ft K-55 New	3300'	300	12		Water	
5360'	Bn Niag	7 7/8"	5 1/2"	15 1/2 #/ft K-55 New	5370'	300	—	10.8	45	15

25. Send correspondence and permit to:

Address:

Robert Raffaele, Inc., 346 E. Front St., Traverse City, MI 49684

LEAVE BLANK

Date issued

Permit

Number

6-11-81

☒ TO DRILL

34,713

☐ TO DEEPEN

26. Name of applicant's agent: (Print)

Phone:

Robert Raffaele

616-946-1140

27. Signature of agent:

Date:

Robert Raffaele

Apr. 3, 1981

FOR CASHIER'S USE ONLY. DO NOT WRITE IN THIS SPACE

PR-7-81

332

100.00

For Geological Survey Use Only

1. White — Lansing file
2. Canary — Cashier copy
3. Blue — District review

4. Pink — Region review
5. Goldenrod — District file (w/permit)
6. Green — Applicant file (w/permit)

INSTRUCTIONS FOR PREPARING APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1. Use Form R-7207. Each set has six sheets. The green will be returned when a permit is issued. "Owner" means the person who has the right to drill into and produce from any pool. An applicant may be one or more owners.
2. **A BOND** for each "owner" must accompany an application or have been previously filed. It may be surety or cash. For details consult the Geological Survey Division. Department of Treasury procedures require either a Federal Employer Identification Number or a Social Security Number whenever deposits are received.
3. **PERMIT FEE** (5) must accompany applications for permit to drill. No fee is required for an application for permit to deepen, a revised application, or to cancel and transfer an existing permit. An application to cancel and transfer a permit must be accompanied by the original permit. Write checks payable to "State of Michigan." For a fee amount consult Act 61 or Geological Survey Division. Department of Treasury requirements prevent refund of fees without either a Federal Employer Identification Number or Social Security Number.
4. **WELL LOCATION SURVEY** (13, 14, 17a, and 17c) Submit 5 copies of form R-7208 "Survey of Well" location." Surveyors plat(s) may be substituted for form R-7208 provided they contain complete information required. Submit supplemental information and maps if a lake, stream, swamp, building, road, powerline, etc., is within one-quarter mile of location. Using data from plat(s) complete sections 13, 14, 17a, and 17c. If vertical drill, Section 17b may be omitted. **See special instructions for directional drills.**
5. **DIRECTIONAL DRILL WELL LOCATION** (15, 16, 17a, 17b, and 17c) Provide supplemental plat(s) showing location and description of intended directional drill bottom hole location. Give correct footage measurements of intended bottom hole location from the **NEAREST** quarter section lines and from **NEAREST** unit lines. Show and give dimensions of bottom hole target area. Using data from plat(s) complete sections 15, 16, 17a, 17b, and 17c.
6. **SOUR OIL OR GAS** (22) If well is located in an area where sour oil and gas is likely to be encountered, the drilling and the operation must follow special requirements to protect against the danger of Hydrogen Sulfide (H₂S) gas. Instructions and guidelines for sour oil and gas wells provided upon request.
7. **BLOWOUT CONTROL** (23) Provide detail of the blowout prevention or cable tool wellhead equipment to be used. Supplement sheet R-7207-S1 "Wellhead Blowout Control System," or other may be attached if applicable.
8. **PROGRAM OF DRILLING, CASING, CEMENTING AND SEALING** (24) Provide all data applicable to the proposed drilling. Should the proposed program of drilling, casing, cementing, and sealing not conform with those established by rule, regulation or order, requests for exceptions to any of these must accompany an application for permit. Provide 5 copies of attachments.
9. **DIRECTIONAL DRILL ENGINEERING PROGRAM.** Include deviation kick-off points, degree of deviation intended, proposed depth and true vertical depth of the bottom hole. Specify the lateral distance and direction from the surface location to the proposed bottom hole location. Give name and address of the engineering company who will direct the deviation of the well bore and other pertinent information. Provide 5 copies of directional drill program.
10. **ENVIRONMENTAL IMPACT ASSESSMENT.** Submit five copies of Environmental Impact Assessment. "Instructions and Guidelines for Preparation of Environmental Impact Assessment" provided upon request.
11. **WELL ELEVATION.** Furnish with well location survey or certify that an elevation will be run and submitted within fourteen days after drilling commences.
12. **DEEPEN DRILLING WELL.** Submit R-7207 application for permit to deepen a drilling well to deeper pays or formations. A fee is not required. Include deepening information in the "Log of Oil, Gas, Disposal or Storage Well" (R-7210) when the well log is filed.
13. **DEEPEN OLD WELL (OWDD).** Submit R-7207 application for permit to deepen an old well. Attach a narrative describing the proposed operation. Include detail of the drilling and completion and any other changes in the well or its status which may result. No fee is required. Submit deepening information on "Well Rework Record" (R-7212) upon completion.

NOTICE: When drilling commences, the proper area field office **MUST** be notified!

East Lansing (517) 339-8638
8562 E. Stoll Rd., 48823

Mt. Pleasant (517) 773-9965
204 Court St., 48858

Imlay City (313) 724-2015
P.O. Box 218, 48444

Plainwell (616) 685-6851
P.O. Box 355, 49080

Cadillac (616) 775-9727
P.O. Box 629, 49601

Gaylord (517) 732-3541
P.O. Box 576, 49735

THE SUPERVISOR OF WELLS IS PROHIBITED BY LAW FROM ISSUING A DRILLING PERMIT TO ANY OWNER OR OPERATOR WHO IS IN VIOLATION OF ANY OF THE PROVISIONS OF ACT 61 P.A. 1939, AS AMENDED, OR ANY OF THE RULES OR ORDERS PROMULGATED THEREUNDER.

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
SUPERVISOR OF WELLS
PERMIT TO DRILL
(POST ORIGINAL AT DRILL SITE)

Nº 6964

For Auditing Only

PERMIT NO. 34,713 Issue Date June 19, 1981 Termination Date June 19, 1982

Permission is hereby granted to Robert Raffaele, Inc.

Owner
346 E. Front St., Traverse City, MI 49684

Address

Lease Name State-Blair Well Number 5-21

Location NW¼ SE¼ NE¼ Section 21, T.26N., R.11W., Blair Twp., Grand Traverse Co.

Footages 860' from south and 760' from east line of quarter section

460' from north and 760' from east line of drilling unit

Type of Well Oil and/or Gas Kind of Tools Rotary Objective Formation Brn. Nlag. Intended Depth 5360'

This permit is issued subject to the provisions of Act 61, P.A. 1939, as amended, and rules, requirements, or orders issued by the Supervisor of Wells and Department of Natural Resources.

SUPERVISOR OF WELLS

By *James R. Duszynski*

CASING AND SEALING REQUIREMENTS

Casing Program

Cement

O.D. Size	Wt./Ft.-Grade-Condition	Depth	Sacks	woc (hrs.)
16"	New	90	driven	
11 3/4"	42#/ft. K-55 new	650	Circ.	12
8 5/8"	32#/ft. K-55 new	3300	300	12
5 1/2"	15 1/2#/ft. K-55 new	5370	300	-

NOTICE

DEPARTMENT OF NATURAL RESOURCES FIELD OFFICES must be notified prior to the commencement of drilling, deepening, reworking, and plugging.

DRILLING OPERATIONS ARE NOT TO BE COMMENCED until all the well location requirements have been completed and the permit has been posted in a conspicuous place at the well site.

DRILLING PERMIT ISSUED on the basis of the drilling, casing and sealing program as outlined on the application for permit and subject to requirements as set forth above. No change shall be made without approval of the Supervisor of Wells representative.

IT IS FURTHER MADE A REQUIREMENT OF THIS PERMIT that the applicant give notice to the Public Utilities in accordance with Act 53, P.A. 1974 C.L. 460.701 to 460.718 and comply with each of the requirements of the act.

TO RETAIN ELIGIBILITY for Natural Gas Policy Act (NGPA) prices for Antrim shale gas after January 1, 1980 a Permittee must file a Crude Oil Windfall Profit Tax (COWPT) waiver with the Federal Energy Regulatory Commission (FERC) prior to commencing the drilling of a well.

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGY DIVISION

SURVEY RECORD OF WELL LOCATION

(Submit in quadruplicate with Application for Permit to Drill a Well for Oil or Gas, Brine Disposal, Secondary Recovery, or Gas or L.P.G. Storage)

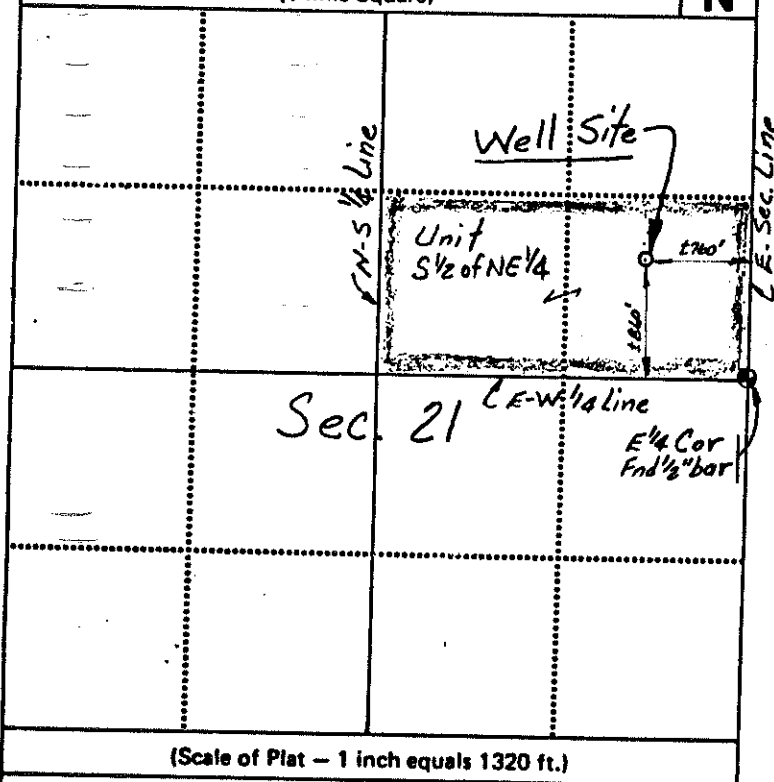
LESSEE (OWNER OF LEASE RIGHTS) <u>Robert Raffaele Inc.</u>		WELL NO. <u>5-21</u>
LESSOR (OWNER OF MINERAL RIGHTS) <u>State - Blair</u>		
LOCATION		
NW	% OF	SE % OF NE % SECTION 21 T. 26N R. 11W

TOWNSHIP
Blair Township

COUNTY
Grand Traverse County

PLAT BELOW REPRESENTS ONE FULL SECTION
(1 Mile Square)

N



1. Outline drilling unit and spot well location on plat at left. Where drilling unit crosses section lines, divide the plat into an east half and a west half OR a north half and a south half (which ever applies). Outline the unit and locate the well in two directions from NEAREST quarter section and unit lines.

2. Location of well in two directions from NEAREST quarter section and unit lines is:

860 ft. from South line of Quarter Section
(north-south)

760 ft. from East line of Quarter Section
(east-west)

860 ft. from South line of unit
(north-south)

760 ft. from East line of unit
(east-west)

3. Describe wellsite marker. Show or describe access route if it is not readily accessible.

Wood stake at well location. Set
offset stakes at 150' in Four Cardinal
directions.

Trail Road to North Leading to
Blair Road.

4. ON SEPARATE PLAT OR PLOT PLAN:

A. Locate, identify, and show distances to all roads, power lines, residences, farm buildings, and other structures within 300 feet of the stake;

B. Locate, identify, and show distances to all lakes, streams, swamps, drainage-ways or any other surface water features within 1320 feet of the stake.

5. In an ENVIRONMENTAL IMPACT ASSESSMENT describe all structures and surface features shown detailing plans for hazards prevention and erosion control (See instructions and guidelines for preparation of an environmental impact assessment).

NAME OF INDIVIDUAL WHO SURVEYED WELL SITE <u>James L. Schwandt</u>	DATE <u>March 23, 1981</u>	TITLE <u>Licensed Surveyor</u>
ADDRESS <u>128 N. Court St.</u>	<u>Gaylord, Michigan 49735</u>	Registration No. <u>26466</u>

I CERTIFY THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF

SIGNATURE (LESSEE OR AUTHORIZED REPRESENTATIVE) <u>James L. Schwandt</u>	ADDRESS (IF DIFFERENT THAN LESSEE)	DATE (MONTH, DAY, YEAR)
---	------------------------------------	-------------------------



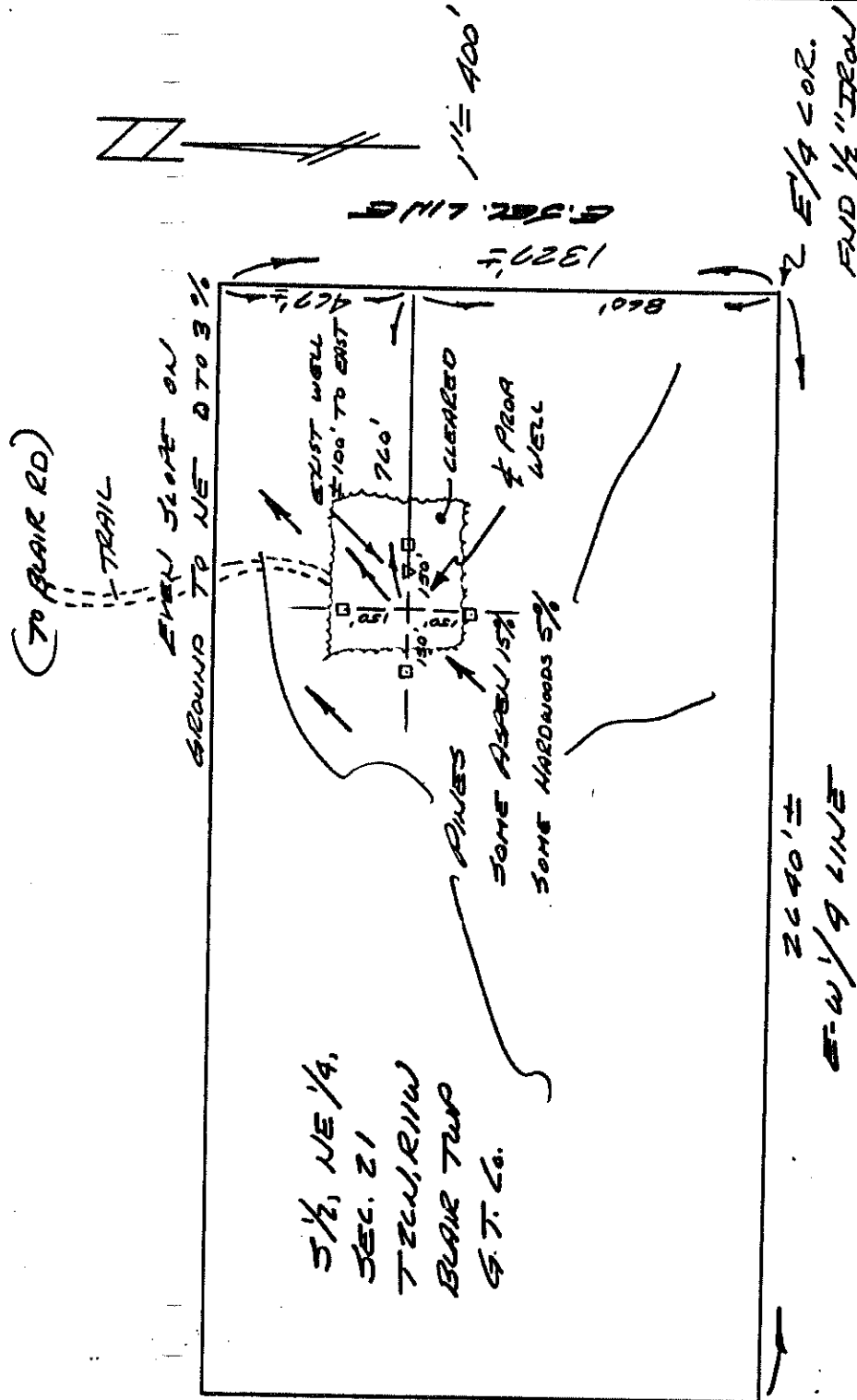
Granger Engineering

Cadillac • Kalkaska • Gaylord
Sault Ste. Marie
Civil Engineers • Land Surveyors

FORM 25-0

WORK
SHEET

REFERENCE



SUBJECT

PAFFAULE OIL

BY TAR

CHK.

DATE 3/18/91

DATE

SHEET NO.

1 OF 1

File Code No. (Job No.)

Owner Project

Suffix

6541593.01

FIELD REVIEW OF PROPOSED WELL SITE

1. Date of Inspection: 5/15/81
2. Name of Applicant: Robert Raffaele, Inc.
3. Well Name & Number: State Blair 5-21
4. Legal Description: NW SE NE, Section 21, T26N, R11W, Blair, Grand Traverse Co.
5. Surface Owner: State of Michigan
6. Topography: Flat
7. Cover Type/Density: Grasses, some pine and aspen
8. Land Utilization: State forest
9. State the type of and the direction and distance to surface waters within one-quarter (1/4) mile. None
10. Were soil erosion and sedimentation control measures adequately considered? If not, specify additional requirements. Yes.
11. Is it reasonable to expect to encounter H₂S while drilling this well? No.
Are drilling practices proposed adequate for H₂S safety? If not, specify additional requirements.
12. Is the Environmental Impact Assessment accurate and acceptable? Yes. Specify any other site construction requirements and/or restrictions. Comments, if any.
An unlined earthen pit will be allowed to receive fresh water muds used prior to setting surface casing. Full 20 mill. PVC liner used for receiving all drilling fluids from surface pipe on. All salt cuttings will either be fully dissolved or collected off the shale shaker for approved disposal. All fluids removed from pit upon completion to an approved disposal site in accordance with Special Order 1-81. Residual materials either must be removed or totally encapsulated with the folded over liner plus an impermeable cover, if needed, for total coverage at four feet below grade. Encapsulated liner given approval prior to covering by a representative of Supervisor of Wells. Upon completing wells, all testing fluids be contained to steel tanks and hauled to authorized disposal upon completion.
- APPLICANT'S REPRESENTATIVE WAS NOTIFIED OF ALL REQUIREMENTS AND/OR RESTRICTIONS AND AGREES TO THEM. THEREFORE I RECOMMEND ISSUANCE OF A PERMIT TO DRILL FOR THE WELL SITE.

GEOLOGICAL SURVEY DIVISION: Cadillac, D#6

BY: William Beach

(signature)

5/18/81

(date)

REGIONAL DIRECTOR: Region II

BY: John MacGregor

(signature)

6/15/81

(date)

State of Michigan
Department of Natural Resources
Geological Survey Division

ADDENDUM TO FIELD REVIEW OF PROPOSED WELL SITE

12.— (Continued) Other site construction requirements and/or restrictions.

- a. An unlined earthen pit used to receive fresh water muds prior to setting surface casing will be allowed.
- b. A 20 mil seamless PVC plastic liner shall be used for pits receiving drilling fluids from below the surface pipe.
- c. All salt cuttings will be either fully dissolved or collected in containers off the shale shaker for approved disposal per Special Order No. 1-81.
- d. All fluids in the lined pit shall be removed and disposed in accordance with Special Order #1-81.
- e. Residual materials must either be removed or totally encapsulated with the folded over liner and/or an additional impermeable cover as needed, for burial at four feet below grade or deeper.
- f. Approval of the encapsulation must be received from the Supervisor of Wells representative prior to the back-filling.
- g. During well completion and test procedures, all fluids must be contained in steel tanks and transported to approved facilities for disposal.

WELL SITE PERMIT

APPROVAL SUBJECT TO ALL SPECIFIC AND GENERAL CONDITIONS CONTAINED HEREIN
NOT EFFECTIVE UNTIL ISSUANCE OF DRILLING PERMIT

TOTAL DAMAGES \$	PERMIT NO.
ISSUING LOCATION (Forest Area, Game Area, etc.)	7-81
Traverse City Forest Area	
ADDRESS	
404 W. 14th St., Traverse City, MI	

PERMITTEE (Name and Address)

Robert Raffaele Inc., 346 E. Front St., Traverse City, MI 49684

Subject to the provisions of the law and the conditions herein contained, permission is hereby granted to the permittee indicated above to construct and/or in-
drill and develop an oil or gas well drilling site on the following described state-owned lands:

T26N R11W Sec. 21 NW 1/4

State-Blair S-21

and after the Department of Natural Resources shall be referred to as DNR.
This permit is not an easement and does not convey exclusive right of the roads to the Permittee. Control and use of roads shall remain under the jurisdiction of the DNR whose authorized representatives shall have free access at all time to the property described above for all purposes including inspection and examination.

All standing timber to be removed shall be paid for at the standard rates for right-of-way clearings established by the DNR prior to issuance of the drilling permit.

Permittee and his employees shall take all reasonable precautions to prevent and suppress forest fires, shall cause no unnecessary damage to natural tree grove or to any plantations, and shall be responsible for any damage other than ordinary to state property. Before burning any refuse or setting any fires whatsoever permittee shall obtain the required permit from this Department's authorized representative.

The permittee shall maintain the area under permit in a clean and tidy condition.

It shall be the responsibility of the permittee to install adequate safety facilities and to provide adequate safety precautions.

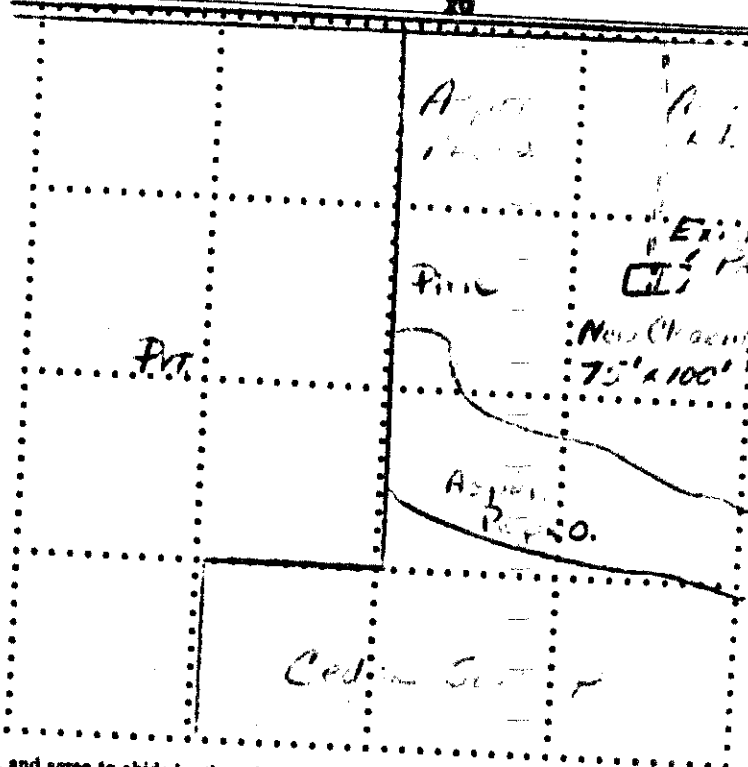
The DNR and the State of Michigan and their agents, servants and employees, shall not be held liable for any injury or damages suffered by the permittee resulting from the use of the premises herein described or arising out of the performance of any act or thing required of this permit, and the permittee hereby release and discharge the DNR and the State of Michigan, and their servants, agents and employees from any claims or demands that he may have whatsoever kind and nature in any manner arising out of any matter or thing related to this permit or the premises described, and the permittee covenants and agrees with DNR and the State of Michigan that he will indemnify and save harmless the said DNR and the State of Michigan, their servants, agents and employees from any claims and demands that any person may have to make in any manner arising out of any matter or thing related to this permit or the premises described.

Construction or improvement of roads and the clearing of well sites shall not commence until course of roads and construction specifications as mapped below have been approved by the Department Representative indicated. Width of roads and well site clearing shall not exceed the following dimensions:

MAXIMUM WIDTH OF ROADS	DIMENSIONS OF WELL SITE CLEARING		SCALE:	CHAINS	
N/A	300	FT. X 300	1" =	20	

SPECIAL CONDITIONS:

As much of the existing pad will be used as possible.
If well is nonproductive, the site will be returned to seedling under recommendations of Wildlife Division.
Access will be off of existing roads.



I have read the conditions governing this permit, including condition 1 through 8, and agree to abide by them in the conduct of my operations.

DEPARTMENT REPRESENTATIVE (Signature & Title)

DATE

PERMITTEE (Signature)

DATE

I, Permittee, Area Manager, District Forest Manager, Regional Forest Manager, Lansing Forest Management Div. Office

FIELD RECOMMENDATIONS

PROPOSED WELL SITE &
ROAD ACCESS THERETO

DATE: 6/3/81
FOREST: Traverse City

APPLICANT: Robert Raffaele Inc., 346 E. Front St., Traverse City, MI 49684
(Name) (Address)

LEGAL DESCRIPTION: T26N R11W Sec. 21 NW 1/4 SE 1/4

DIMENSIONS OF WELL SITE: 300' X 300' .28 acres new clearing (Acres)

LENGTH & WIDTH OF NEW ACCESS ROAD: N/A (Acres)

COVER TYPE/DENSITY: Open - R_g

SOIL TYPE & DRAINAGE PATTERN: Sandy soil, Good drainage.

TOPOGRAPHY: Flat

OWNERSHIP PATTERN: Private land 1/4 mile West.

NEAREST WATER: (Name) Mason Creek (Direction & Distance) 1/2 mile south

WILDLIFE POPULATION PRESENT: Normal populations for cover type.

DAMAGE APPRAISAL: 4 eds. red pine \$80.00
(Quantity) (Amount)

NEARBY SCENIC, HISTORICAL, OR RECREATIONAL AREAS: N/A

NARRATIVE: _____
(Include Fisheries & Wildlife Personnel Recommendation)

WILDLIFE REPRESENTATIVE INITIALS: R.O. 6-4-81, R.H. 6-10-81

FISHERIES REPRESENTATIVE INITIALS: R.H. 6-5-81, J.R. 6-7-81

SPECIAL CONDITIONS SHOULD THE PERMIT BE APPROVED: (Must be Included on R4017) _____

I, THEREFORE, RECOMMEND/DO NOT RECOMMEND ~~ISSUANCE~~ ISSUANCE OF THIS PERMIT.

DIST: File
District Forester
Regional Forester

Edward Hubbard 6-3-81
AREA FORESTER DATE
John Palmer 6/10/81

OIL AND GAS OPERATIONS
STATE OF MICHIGAN
ENVIRONMENTAL IMPACT STATEMENT

Well Identification

Name of Applicant: Robert Raffaele, Inc.
Address: 346 E. Front Street
Traverse City, MI 49684
Well Name and Number: State Blair 5-21
Location: Northeast 1/4 of southeast 1/4 of northeast 1/4
Section 21, T26N, R11W
Blair Township, Grand Traverse County, Michigan

I. Description of Project:

A development well is to be drilled 760 feet from the east line and 860 feet from the south line of the northeast 1/4 of Section 21, T26N, R11W, to an anticipated depth of 5900 feet for the production of hydrocarbons from the Salina Niagaran formation. The well will be drilled on an 80 acre unit consisting of the south 1/2 of the northeast 1/4 of Section 21, T26N, R11W, Blair Township, Grand Traverse County, Michigan. Surface and mineral rights for the proposed drilling unit are held by the State of Michigan.

The proposed well site has been staked on nearly level land which is currently utilized for forest recreational purposes. Access to the proposed location will be from the south.

II. Environmental Impact Assessment:

The drilling and operation of a producing well at this location should have only a minimal effect on the ecological system of the vicinity. Wild-life is abundant throughout the region, but no special or endangered species are known to exist in the vicinity of the proposed well site. Operation of a producing well at this location should have no effect on future population patterns.

An area of approximately 2.0 acres will be required for drilling, and up to 3.5 acres may be needed if the well is productive. The proposed well site has been staked on nearly level land and only minimal earthwork will be required to prepare the drilling pad. Drill site preparation will require the removal of the existing cover which consists of planted third and fourth class Red Pine with scattered third and fourth class Poplar and Maple. Sufficient vegetation will remain to generally screen drilling operations from view of the public. Access to the proposed location will be from the South and will utilize an unimproved trail road which passes approximately 30 feet Easterly of the proposed well site. Only minimal upgrading of the existing trail road and some tree removal is anticipated to provide the necessary access. In the event that production is established, it may be necessary to further upgrade the access route in order to allow all-weather operations to be conducted.

Natural drainage at the proposed well site is Northwesterly with slopes of 1 to 3%. No open water or defined drainage channels exist within 500 feet of the proposed well site. No lakes or principle streams are found within 1320 feet of the proposed well site. An area of marginal marshland is located approximately 1000 feet Southerly of the well site. But the edge of this area is poorly defined. Appropriate drill site drainage and sedimentation control measures will be incorporated in the operational plan. These will include utilization of earthen dikes along any fill portion of the drilling pad perimeter, location of reserve pits in the cut portion of the drilling pad, and stabilization of slopes as needed. Because of the nearly level nature of the land in the vicinity of the proposed well site, no unusual drainage or erosional problems are anticipated at this location. Soils in the vicinity of the proposed well site have been classified as Kalkaska Loamy Sands which are generally well-drained.

Production equipment will require an area of approximately 65 by 325 feet included in the above mentioned 3.5 acres. It is anticipated that hydrocarbon liquids will be removed by truck and gas by pipeline. Consumers Power Company presently maintains a 4-inch gas transmission line which is located approximately 1000 feet Easterly of the proposed well site.

If the well is nonproductive, or upon abandonment, it will be plugged in accordance with D.N.R. instructions. The site will be fine-graded, stabilized, and reseeded with a mixture of grasses. If the well is productive, there will be a minimal effect on the immediate environment.

III. Possible Alternatives to the Proposed Well Location:

The proposed location has been selected on the basis of a seismic interpretation. Topographic conditions are generally well-suited for the proposed project. It is our opinion that adequate protection of the environment can be maintained at this location and we do not believe that further consideration of any alternative location should be necessary.

IV. Any Irreversible and Irretrievable Commitment of Resources:

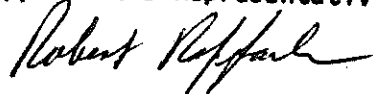
The current shortage of oil and gas in the State of Michigan requires the efficient use of all resources. Production of oil and gas is an irreversible and irretrievable commitment of resources. However, this procedure is a necessary characteristic in the production of hydrocarbons. The surface resources of the drill site will not be irreversibly committed. Drilling of the well will not curtail the use of the surrounding environment.

V. Summary:

The proposed project is aimed at increasing the hydrocarbon reserves within the State of Michigan. The proposed well site has been staked on nearly level land and only minimal earthwork will be required to prepare the drilling pad. Access to the proposed location will be generally from the South and will utilize an existing trail road with only minor upgrading anticipated.

Drill site preparation will require removal of existing planted Red Pine and scattered hardwood trees now found at the site. Sufficient vegetation will remain to screen drilling operations from view of the public. No lakes or principle streams exist within 1320 feet of the proposed well site. An area of marginal marshland does begin approximately 1000 feet Southerly of the proposed well site. Appropriate drill site drainage and sedimentation control measures will be incorporated in the operational plan. The environmental impact of this well is considered to be minimal, and every effort will be made to insure protection and preservation of the environment during the course of the drilling operations.

Applicant's Representative



Comments by Supervisor of Wells or Department of Natural Resources Representative:


Authorized Representative

Raffaele inc.
Petroleum Consultants

Office:
346 E. Front Street
Traverse City,
Michigan 49684
(616) 946-1140

Residence:
325 Wellington Street
Traverse City,
Michigan 49684
(616) 946-4106

March 31, 1981

Mr. S. Alguire
Geological Survey Division
Michigan Department of Natural Resources
Box 30028
Stevens T. Masons Bldg.
Lansing, MI 48909

Dear Mr. Alguire:

Enclosed is the permit application and supporting data for Robert Raffaele, Inc.'s State Blair #5-21 well located in section 21-26N-11W, Blair Township, Grand Traverse, Michigan. The unit described is acreage acquired from Northern Michigan Exploration Company on a farmout to Raffaele, Inc.

Nicor Drilling Company is scheduled to drill the well in May, 1981. Bonding will be posted by General Agency, Mount Pleasant, Michigan. If you have any questions, please do not hesitate to contact me.

Sincerely,



Robert P. Raffaele
Petroleum Consultant

mr

WELLHEAD BLOW CONTROL SYSTEM

Optional worksheet supplement for "Application for Permit to Drill or Deepen a Well for Oil, Gas, Brine Disposal, Hydrocarbon Storage or Secondary Recovery"

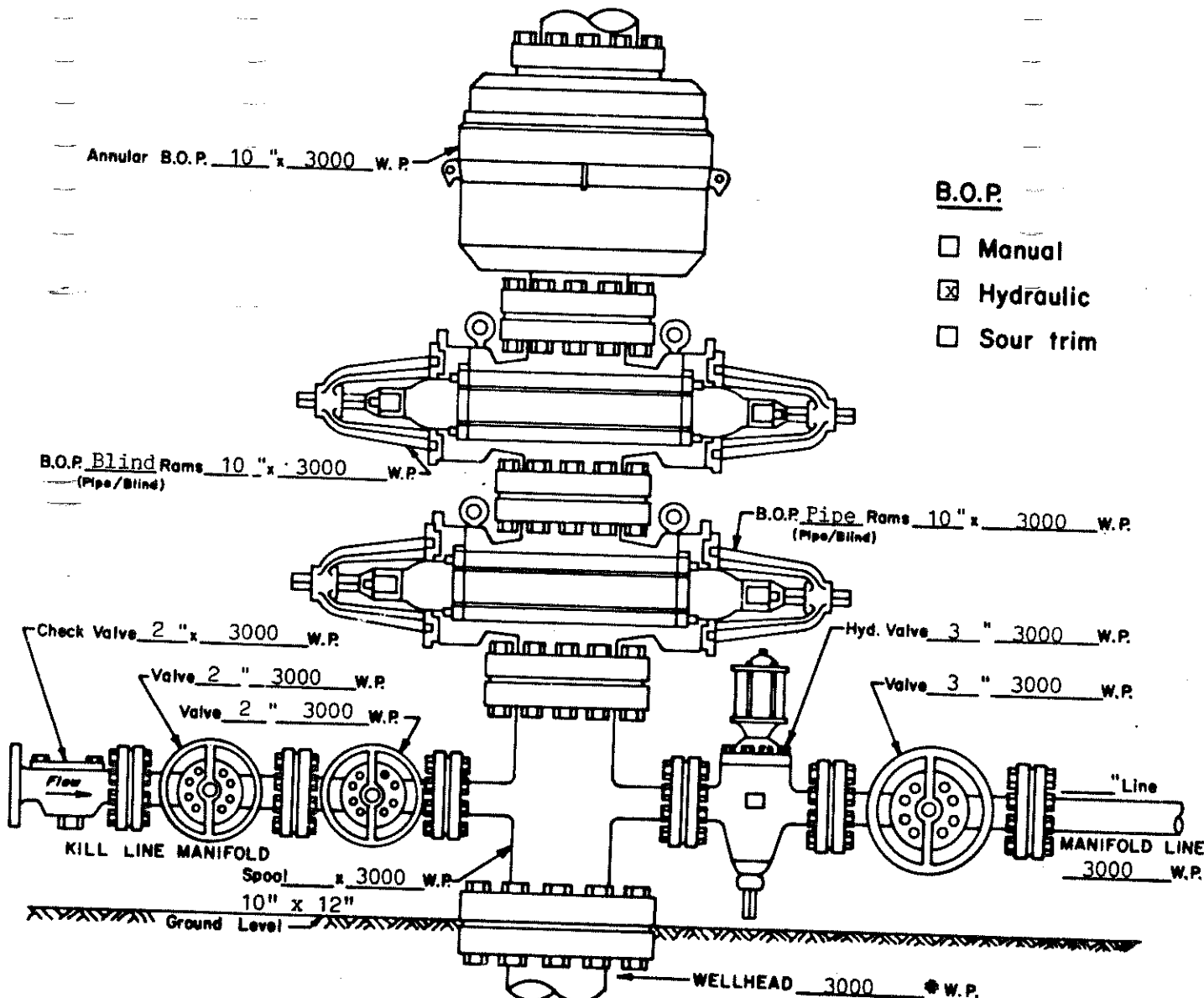
STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION

R 7207-51
& 79

COMPANY Robert Raffaele, Inc.

WELL NAME State Blair #5-21

LOCATION NW SE NE Section 21-26N-11W



Fill blanks with applicable information. If not applicable, enter "N.A." or cross-out item shown. Enter other pertinent information below.

Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

4

EPA

UNDERGROUND INJECTION CONTROL
PERMIT APPLICATION(Collected under the authority of the Safe Drinking
Water Act, Sections 1421, 1422, 40 CFR 144)

I. EPA ID NUMBER

UIC

READ ATTACHED INSTRUCTIONS BEFORE STARTING
FOR OFFICIAL USE ONLY

Application approved mo day year	Date Received mo day year	Permit/Well Number	Comments
		MT-055-20-0015	

II. FACILITY NAME AND ADDRESS		III. OWNER/OPERATOR AND ADDRESS	
Facility Name State Blair #5-21 S.W.D. Mich. Permit #34713		Owner/Operator Name Kalkaska Oilfield Services, Inc.	
Street Address NW/4, SE/4, NE/4 Section 21, T26N, R11W		Street Address 418 S. Maple st.	
City Grand Traverse County	State Mich.	City Kalkaska	State Mich.
	ZIP Code 49684		ZIP Code 49646
IV. OWNERSHIP STATUS (Mark 'x')		V. SIC CODES	

<input type="checkbox"/> A. Federal	<input checked="" type="checkbox"/> B. State	<input type="checkbox"/> C. Private
<input type="checkbox"/> D. Public	<input type="checkbox"/> E. Other (Explain)	

VI. WELL STATUS (Mark 'x')		
<input checked="" type="checkbox"/> A. Operating	Date Started mo day year 8 2 82	<input checked="" type="checkbox"/> B. Modification/Conversion <input checked="" type="checkbox"/> C. Proposed

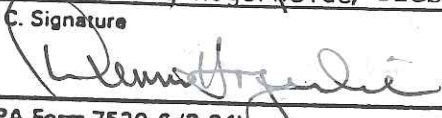
VII. TYPE OF PERMIT REQUESTED (Mark 'x' and specify if required)			
<input checked="" type="checkbox"/> A. Individual	<input type="checkbox"/> B. Area	Number of Exist- ing wells 1	Number of Pro- posed wells
		Name(s) of field(s) or project(s) Blair pool A	

VIII. CLASS AND TYPE OF WELL (see reverse)			
A. Class(es) (enter code(s)) II	B. Type(s) (enter code(s)) D	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)

IX. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT												X. INDIAN LANDS (Mark 'x')			
A. Latitude			B. Longitude			Township and Range									
Deg	Min	Sec	Deg	Min	Sec	Twsp	Range	Sec	1/4 Sec	Feet from	Line	Feet from	Line	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
44	38	22	85	38	21	26N	11W	21	NE	860	S	760	E		

XI. ATTACHMENTS	
(Complete the following questions on a separate sheet(s) and number accordingly; see instructions) FOR CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application:	

XII. CERTIFICATION	
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)	

Name and Title (Type or Print) Kalkaska Oilfield Services, Inc. Dennis Hogerheide, President		B. Phone No. (Area Code and No.) 616-258-9134
C. Signature  , President		D. Date Signed 8-30, 1994